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A TREATISE
ON THE
PRESERVATION OF HEALTH

AND
TREATMENT OF DISEASE,

FOR
The Use of Families and Others,

AS A GUIDE TO THE PROPER MEDICAL TREATMENT OF ALL
ORDINARY AILMENTS AND DISEASES.

CONTAINING ALSO
MANY VALUABLE PRESCRIPTIONS.

A DESCRIPTION OF DRUGS AND CHEMICALS IN COMMON USE,
WITH A TABLE OF DOSES, ETC.

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P R E F A C E.

THE following concise account of the several diseases to which the human frame is subject, is published with a hope of its proving useful to unprofessional persons, for the maintenance of health, the remedy of slighter ailments, and to enable them to recognise the symptoms of severe and dangerous maladies.

For those to whom professional skill is not readily accessible, the description given in these pages of the more serious diseases will afford facilities of applying at least temporary relief. It has been the object of the author to divest the treatment of disease of much of the mystery in which it is usually involved, to compress within as small a compass as possible, consistently with utility, everything which deserves attention in connexion with the subject.

This work is not intended to supply the place of a medical man, no written instruction can approach in value practical experience; therefore, in serious cases, if professional assistance is within reach, no time should be lost in obtaining it; meanwhile some endeavour may be made to alleviate suffering and obviate danger.

The description given of the medicinal preparations in common use, together with the table of doses and proper mode of administration, will be found invaluable as a medicine-chest companion.

The collection of valuable Formulæ, to which reference is constantly made throughout the work, and the Glossary of Medical Terms employed, will, the author trusts, combine to render the volume extensively useful.

HEALTH AND DISEASE.

HEALTH consists in the due performance of the functions of the body. If any one of them be impeded or arrested, or if the balance of action be interfered with to a certain extent, indisposition or illness must be at hand. It is often the case that the correspondence or agreement of function is habitually more or less at fault, and yet an appearance of tolerable health is maintained; but this imperfect and fallacious state is replete with uncertainty and danger; the mischief may be undermining the constitution and sapping the vital system, until at length it manifests itself in serious, and perhaps irremediable, malady, or, what is not uncommon, terminates in sudden and unlooked-for death. The standard of health, however, is not by any means uniform. Each individual is born with a constitution peculiar to himself, and which is subject to special modifications during the early period of life. According to constitution, one set of functions may preponderate somewhat over the others, and yet not exceed the limits of healthy relationship. Thus, in some individuals we may have a specially powerful muscular organization; in others, acute sensibility. In lymphatic habits the soft fatty parts are largely developed, from the nutrient circulation going on in a slow and deliberate manner, causing an abundant deposition of substance, which is tardily removed; whereas, in a true bilious habit, nutrition goes on with energy, but is fully counterbalanced by the rapid removal and destruction of the various animal tissues. Again, the amount of general tone or power may vary in different constitutions; while in some individuals it is large, in others it is comparatively small; but even then the latter may constitute a more healthy state, if the balance of function be just, and the equilibrium of the system be well preserved, than when the sum of power is large, but unequally and irregularly distributed.

Let us now, therefore, briefly consider the various functions of the body, so as to enable us to appreciate better that which is essentially their healthy condition, and to judge how much deviation therefrom will constitute an unhealthy or morbid state.

THE FUNCTION OF RESPIRATION

first attracts our attention, and we can readily understand how essential its due performance is to the maintenance of health. It is the origin and commencement of all the chemical change which constantly goes on in every living being. While it tends to the organization of the structures of the body, to the fitting of the different materials to their appropriate purposes, it is yet more potent in the destruction of such as have served their turn and become useless. In this

latter respect respiration is similar to the burning of a candle or piece of wood ; their carbon and hydrogen unite with the oxygen of the air, to form carbonic acid and water ; in fact, respiration, as a destructive action, is a slow process of combustion.

By a wonderful provision of nature, atmospheric air has one constant composition, viz., about one part of oxygen mixed with two parts of nitrogen : this is not liable to much variation, except from some artificial cause. It is of importance that this composition should be maintained, as any alteration cannot but be prejudicial to health. In ill-ventilated chambers, where numerous people are assembled, carbonic acid gas will naturally form and collect from respiratory action, and if lights are burning, they will, of course, contribute to its formation. Now, it is well known that this carbonic acid gas is a deadly poison. No animal can live in it, and if inspired, even in a very dilute state, it cannot fail to be hurtful. Hence the great importance of ventilation. Carbonic acid gas is abundantly developed by the decay of animal and vegetable substances, and thus a locality may be rendered unhealthy. Fresh-burnt and slaked lime, or even lime-wash, by their chemical affinity, readily attract the carbonic acid gas, combining with it to form carbonate of lime or chalk ; and the free access of atmospheric air, by diffusing and diluting the poisonous fluid, renders it comparatively harmless. Carburetted and sulphuretted hydrogen are also poisonous gases, which are developed by a high degree of fermentation in animal or vegetable matter, or that which is termed putrefactive action. They are poisonous in the highest degree, and, in a very diluted form, would interfere seriously with respiration. They are generated spontaneously in drains, sewers, and cesspools. Imperfect drainage and want of cleanliness are the chief causes of the generation of these gases, and it may generally be prevented by a free supply of pure air and water, and their due appliance. Many poisons doubtless obtain admittance into the blood through the medium of the lungs, and we may almost believe that some infectious diseases owe their propagation to the inspiration of air, in which the subtle and invisible poison is diffused, rather than to any contact with the surface of the body.

We may assume, therefore, that there is a certain amount of respiration necessary to give the system its due supply of oxygen, in order to remove the carbon, and that if this supply be not afforded, the blood will assume an unnatural and unhealthy condition. The lungs in health are always full of air, though in variable quantity, but each respiratory effort, consisting of inspiration and expiration, only changes about one-eighth part of the bulk thereof. On an average there are twenty respirations per minute, about one to rather less than four beats of the pulse. This, however, is liable to great variation. In the young both the pulse and the respiration are naturally much more frequent, but the proportion between them is still observed. The respiration may be hurried by mere temporary excitement, but if permanently quickened it must ordinarily arise from some morbid state which impedes the access of the air to the blood, and by so diminishing the influence of each respiratory effort, renders its more frequent repetition necessary. Thus is constituted one of the chief signs of diseased lungs. When the air enters the lungs, and is diffused therein under the respiratory influence, it occasions peculiar sounds, which may be heard through the walls of the chest, and which vary in amount, differing materially in healthy and diseased states. On this is founded the use of the instrument called the stethoscope, which is of great service in recognising diseases of the chest. By percussing or striking the chest we are also often able to ascertain, by the amount of resonance, whether the air has its due access to the lungs, and is duly diffused through the cells.

Unhealthy and diseased states of the respiration may be constituted in various ways. The lining mucous membrane of the larynx, the windpipe, or the

bronchial tubes, may be affected in any part of their course. By congestion, which is the first stage of inflammation, it is at first rendered dry and tumid; but as the disease advances, copious secretion of phlegm or mucus may take place: if the inflammation then subside, the natural healthy condition is gradually resumed. In the larynx and windpipe, however, the inflammation may be much more intense and dangerous, and a firm membranous substance may be formed, which cannot readily be got rid of or expectorated. The trachea or windpipe is partly muscular, and if inflammation set up in the lining membrane thereof, a kind of spasm is apt to result, especially in young children, which causes a constriction of the passage to ensue, giving rise to a peculiar embarrassment of respiration; this constitutes Croup. The small bronchial tubes and the air-cells are apt to become permanently diseased in various ways. Their lining may be thickened, or secrete an undue quantity of mucus; they may become liable to spasm, which may impede the due transit of air, or they may become unduly dilated, or even ruptured, and so lose their contractile power. Low temperature, or a peculiar condition of the atmosphere, have the chief part in causing a diseased state of the lining of the air-tubes. Inflammation of the lining membrane of the large or small air-passages of the lungs is called Bronchitis. The substance of the lungs, or that highly vascular structure which intervenes between the air-cells, may be affected with inflammation of various degrees. This is termed Pneumonia. When it is intense it is highly dangerous; it rapidly solidifies the substance of the lungs, and completely prevents respiration. The arteries of the diseased part become congested, and throw out what is termed fibrinous matter. By the consequent pressure the circulation becomes more or less completely arrested, and even further change may ensue. The mischief may go on more or less rapidly, and it is serious in proportion as it affects a smaller or greater part of the lungs. Pneumonia may be excited by cold, but usually there is a peculiar state of the blood which predisposes to the disease. The most important chronic disease which affects the substance of the lungs is Pulmonary Consumption. This appears to result from irritation and congestion of the small vessels of the lungs, which cause the effusion of tuberculous or serofulous matter, which may be considered as animal substance originally imperfectly organized, or as the result of partial chemical disorganization of the blood itself. As the deposit of this tuberculous matter increases, the pulmonary function is more interfered with, and extra vascular action is excited, causing the softening of the tubercular matter, which is expectorated by coughing. The formation of tuberculous matter goes on rapidly, and the very substance of the lung is destroyed. This is apt to implicate the arterial vessels, causing attacks of hæmorrhage, which in this disease are so often an immediate cause of death.

THE FUNCTION OF CIRCULATION

is carried on by the heart, arteries, and veins, and it is essential to health that these act with due accord.

The heart's action must be contracting and relaxing alternately. Any alteration in the conformation of the heart, or any interference with its delicate mechanism, cannot fail to impede the due performance of its function; thus, increase of its muscular structure renders its impulse more violent; diminution of the muscular structure or dilatation of the cavities it surrounds, causes the action to become weak and feeble, while at the same time, it may occasion the contraction to recur more often, striving to make up in frequency what is wanting in power. If the valvular apparatus of the heart become deficient or diseased, then cardiac action will become more or less irregular and uncertain, and its power will be unnaturally diminished or increased. Independently of

organic change, the heart's action may be modified by nervous influence or by sympathy. Thus, an excited nervous state will give rise to undue action of the heart; deficient nervous energy will cause the heart's action to be low and weak; and from the very same causes it may be excessively irregular. The commonest deviations of the heart's action are, however, often the most complicated in their development: they seem to originate in a kind of sympathy. Thus, for example, any considerable amount of impediment to capillary action will render that of the heart laborious and oppressed. An inflammatory state of the blood, as in some forms of fever and local inflammation, will cause the heart's impulse to become full and strong. A deteriorated condition of the blood will cause the power of the heart to become much diminished, though the action may be slow or frequent. Irritation, whether intrinsic or extrinsic, always accelerates the circulation, though the average amount of power is probably not interfered with.

The arteries are elastic tubes, conveying the blood from the heart to every part of the system. They are capable of adapting themselves to the volume of their contents. With each contraction of the heart they are expanded, and by reacting on the blood cause a delay in its motion; hence the pulse is later in arteries remote from the heart than in those near it.

The chief diseases to which the arteries are liable are: alterations of their texture, partial rupture, and dilatation. They may also become thickened, and more or less converted into bone; which changes are generally more or less connected with advance of life. The partial rupture affects the internal coats of the artery somewhat in the same way as they are affected by a ligature, as mentioned above. This mischief is usually occasioned by a violent strain, but a diseased and brittle condition of the artery usually precedes it. The dilatation of an artery usually originates in a similar cause, but it may also depend on the stretching and expansion of all the arterial coats. This dilated state of an artery is called an aneurism, and is dangerous, inasmuch as it interferes with the circulation, but more especially from its tendency finally to give way and burst, thereby occasioning violent, and even fatal bleeding.

The transit of the blood through the minute arteries or capillaries constitutes the most important part of the circulation. It is from these vessels that the nutrient and secretive processes take place, and consequently vital action is made more strongly manifest in connexion with them than at any other part of the system. The passage of the blood through these capillaries, though excited and guided by the heart's action, does not seem altogether to depend upon it; but it appears essentially connected with a peculiar influence mutually exerted between the fine arterial tubes and the blood itself. That such is the case is evident from the examination of a frog's foot under the microscope, when we perceive that any local irritation will alter and divert it in many different ways, quite independently of the heart's action. On the due relation which exists, and on the mutual action and reaction which take place between the blood and the capillary vessels, healthy nutrition and secretion must therefore depend. If the action of the capillaries be deficient or in excess, or if the composition of the blood have in any way departed from its natural standard, which two conditions are usually combined, then the due relation is lost, and a healthy state no longer exists. Thus the passage of the blood may be slackened or arrested, giving rise to a congestive state; and this cannot long subsist without the vital energy making itself manifest by setting up an unnatural change and action in the blood. In this inflammation originates, giving rise to the effusion of an albuminous fluid, which is serum, or to that of fibrine, or even of purulent matter; and if the energy of the capillary force be unable to counteract or overcome the hindrance or impediment, then the circulation of the part may even come to a stand-still, and gangrene or mortification ensue. This explana-

tion applies alike to external and internal inflammations. Redness, swelling, pain, and heat, are the signs of inflammation. If there be more blood in a part than natural, it will, of course, cause it to show more colour, varying from a bright red to a dusky purple. The swelling also will, in the first place, depend on the greater amount of blood contained in the affected part; and secondly, on the secretive effusion which takes place. The pain at first depends on the excited state of the nerves, and subsequently on the physical pressure which they undergo. The heat is caused also by an excited state of the nerves, which acts on the blood, circulating more slowly and in larger quantity than should be the case; it is also probable that the blood itself is somewhat changed in its nature, having become, as it were, more combustible; and this is especially the case when, the entire system participating in the local irritation, a fever state is established.

The veins are of thinner structure and more distensible nature than the arteries, so that if the blood be unduly hurried through the heart and arteries, it can be retained awhile in the veins, until the circulation becomes again equalized and quiescent. The valves existing in the veins, afford much support under such circumstances. If the action of the heart or of the lungs be interfered with, the passage of the blood through the veins may also be impeded.

From over-distension the veins may become dilated, and the valves be broken down, which constitutes the disease known as varicose veins: this is especially apt to occur in the lower extremities, from the perpendicular pressure of the long columns of blood; and the distension is sometimes so great, that a vein may rupture, and profuse hæmorrhage result. If any impediment be offered to the return of the venous blood, the minute veins may become ruptured, and bleeding consequently ensue, which constitutes another form of venous hæmorrhage. This is especially apt to occur in the stomach and bowels, from their venous blood being impeded in its passage through the liver. The same may happen in the lungs, if the venous blood be more rapidly transmitted thereto than it can be converted into arterial blood, and sent on to the heart.

THE DIGESTIVE AND SECRETIVE PROCESSES.

The pharynx and gullet, or œsophagus, do not exercise any active influence in digestion, constituting merely a passage through which the food passes into the stomach. The pharynx, however, is very apt to become affected with inflammation and ulceration, constituting sore throats of different kinds. A chill is commonly the occasion of these complaints, but a disordered state of digestion, or some peculiar constitutional derangement, especially of the blood, predisposes to them, and is often their most essential cause. The tonsils, or glands of the throat, from like cause, are apt to become enlarged and inflamed, which constitutes a quincy; and it generally goes on to suppuration, or formation of an abscess, which is productive of much inconvenience and distress.

The appearance of the tongue will often afford important indications as to the nature of a complaint, especially if connected with the digestive organs. Thus a want of secretion in the stomach or intestines, which will generally accompany any febrile state of the system, is usually indicated by a dry, brownish, and rather furred tongue. When the secretions of the alimentary canal are vitiated, we generally find the tongue excessively coated and furred. When the system is relaxed and debilitated, the tongue usually has a pale and flabby appearance. When there is much irritation of the system generally, or specially connected with the digestive apparatus, then the tongue either presents a red and denuded appearance, or a pale surface, over which numerous minute red spots are apparent,

The important part which the stomach has to perform in the digestive pro-

ness renders it liable to much disorder, and even disease. Its duty is the formation of the chyme by its acid fermentative action. That this be duly effected depends in the first place on the food taken being of proper quality, in proper quantities, and at proper intervals, and in this respect reason must direct us as well as mere appetite. In the second place, the conversion of the food into chyme depends on the healthy action of the stomach itself. There may be some primary local fault therein, interfering with its sensitive, motor, or secretive power, individually or collectively. This mischief is often connected with some remote cause. The supply of blood may be impeded and interfered with, by inaction of the liver, and thus vascular congestion take place; or the blood may be impure from some febrile state, or other constitutional cause, rendering it unfit for the purpose of gastric secretion. And again, nervous influence has very much to do with the stomach's healthy action, and its derangements are very often closely connected therewith. The stomach is the primary point from which the living body is formed, and maintained: it is very abundantly supplied with nerves, and is in the immediate vicinity of the great organic nervous centre, the semilunar ganglion, which is placed immediately behind it. It has a peculiar relation to every part of the nervous system, and is influenced thereby on every side. Thus, for example, in reference to the brain, any excitement of its mental or moral faculties will affect appetite and digestive action, and its vascular excitement may have the same effect, even causing the stomach to reject its contents. Nervous debility will often render appetite and digestion weak and uncertain. Nervous irritability will materially interfere with the action of the stomach, often causing it to be painful, tedious, and irregular. Any affection of the lungs, heart, liver, kidneys, &c., may in like manner exert a sympathetic influence on the state of the stomach. We also find that any affection of the stomach may, on the other hand, excite sympathy in distant organs; irritating the brain, it may cause headache; irritating the lungs, it may give rise to cough. The stomach may be affected with congestion, or even inflammation, but its most ordinary complaints come under the denomination of dyspepsia.

The obvious function of the liver is the secretion of the bile: that this should be duly effected is of high consequence to the further performance of digestion; and, moreover, the due secretion of bile is important as affording us some indication of that blood change in the liver which is so essential to the integrity of the economy. In the healthy state, therefore, it is necessary that a sufficiency of healthy bile should be secreted to afford due stimulation to intestinal action, at the same time to purify the blood; and it is requisite that the blood shall undergo that change in the liver which shall fit it for the further purposes of the system. If the secretion of bile be arrested, the motions become pale and clayey; and though at first this may not appear to interfere with the health, yet it will soon produce material inconvenience and mischief, most likely as soon as the blood-change becomes seriously impeded. Excessive secretion of bile generally gives rise to bilious diarrhoea and vomiting: an undue richness of the blood predisposes to this state, and a diet of oily and stimulating character usually excites it. A vitiated state of the bile is of common occurrence; it may merely originate in diet, or it may be connected with febrile or other morbid constitutional states. The imperfect secretion of bile may give rise to jaundice; that is, when the bile, though formed, is not separated or secreted at the proper period, but passing on with the general mass of the blood, it becomes liberated by some peculiar chemical action, when it reaches the capillaries of the skin. There is a peculiar fatal form of jaundice, which must depend not merely on want of excretion of bile, but on a paralysed state of the convertible action of the liver as well, the blood thus being rendered poisonous as well as impure. In chlorosis, or the green sickness of females, the secretion of bile is vitiated, but it is probably from other peculiar influences not being exerted

by the liver on the blood, that that fluid is reduced to such an impure and unnatural state. I have briefly alluded to states of morbid blood-change which may accompany derangements of the bile-secreting process, but also I believe that the secretive action of the liver may be only carried on, and that, notwithstanding, the blood-change may not be properly effected, thus giving rise to a variety of ailments. If the general circulation through the liver be impeded, the passage of the blood through the capillaries of the membrane lining the abdomen will be retarded, and a watery fluid may be effused into the abdominal cavity. In such cases the organization of the blood is usually weak and imperfect. On the other hand, it often happens, when the liver becomes congested, and is loaded with bilious material, from the due secretion not going on, that the capillaries and veins of the mucous membrane lining the bowels also become congested, and then the capillaries relieve themselves by an undue secretive action, which constitutes diarrhœa; or if the veins are affected, then those at the lower part of the bowels, near the fundament, become distended, so as sometimes to cause their rupture, constituting the painful affection called piles. From any undue irritation or excitement, slow or chronic inflammation may set up in the liver, causing alterations in its structure and texture in great variety. It may be enlarged or reduced in size; it may be indurated or softened; it may be converted into fatty or granular matter; &c.

The main function of the small intestine is chylickation, that is, the separation of the chyle from the chyme. The chyle is an oily and albuminous fluid, which becomes diffused through the mass of the blood, to minister to its increase and reparation, and to afford material for various secretions. The small intestine has much liability to disorder and disease. We can easily perceive how apt it will be to become implicated in any form of indigestion: the irritation may affect the lining mucous membrane, or the muscular coat, and this irritation is very apt to run on to inflammation. There are great numbers of small glands diffused over the internal surface of the small intestines, and these will frequently become diseased and ulcerated, when the secretions assume an acrid character in connection with an unnatural and vitiated state of the blood, as in typhus fever and scrofula. Indigestion, when specially connected with the small intestines, is most apt to occasion inconvenience about four or six hours after eating; it may manifest itself in pain, nausea, a sense of fulness, or some peculiar uneasiness. When it comes on more actively, it is apt to occasion those spasmodic attacks, which we find so frequently occurring where the diet has disagreed. Inflammation of the small intestines is often of a serious and dangerous character, and requires to be promptly remedied; the action of the bowels becomes almost always completely arrested in this disease, from the paralysed state of the inflamed part; this will be spontaneously relieved when the inflammation is subdued, but it is a great error to endeavour to overcome the obstruction by purgatives, especially in the first instance, for they do but render the diseased structure more irritable, and often cause it to become greatly constricted.

The large intestine constitutes a reservoir for fecal matter, where it is retained until it has accumulated in sufficient quantities for evacuation. The common opinion has been, that gas is secreted by the lining membrane of the large intestines, but I believe that the membrane is merely the medium of transmitting gas, which is undoubtedly materially modified by the chemical action of the residuum of the food. There are large numbers of small glands scattered over the internal surface of the large intestines, and, as in the small bowel, their office is to secrete mucus for the dilution of the digested matter, and for the lubrication of the surface. The large intestines may be affected with inflammatory action, though rarely of such intense character as the small bowels. If the external coat be affected, there will be an inaptitude for muscular contraction, and consequently a torpid state, which may exist without in-

inflammation being present. If, however, the internal mucous membrane become inflamed, it soon passes into a state of inordinate secretion, implicating the small glands we have spoken of, and this constitutes diarrhoea, the commonest form of which, however, implicates both small and large intestines in the diseased action. Where the inflammatory action is more intense, the lining membrane of the large bowels is apt to undergo ulceration, which constitutes dysentery, in which undue secretion is combined with a discharge of matter and blood from the ulcerated surfaces. To effect and regulate the gradual supply of venous blood which the liver requires, the veins of the great intestines are largely developed, and this seems in a great measure to give the diseases which affect them their peculiar character; the dysenteric ulceration for example. This is more especially the case with the diseases of chronic character. Stricture of the rectum generally depends on the irritation and excitement of long continued venous congestion. Piles, as already mentioned, originate in the first instance from obstructed veins, which become over distended, and unable to resume their natural calibre. At first these occasion merely inconvenience, but at length, from pressure and friction, they become irritable, and inflammation sets up in the adjoining parts. If this be not speedily abated by appropriate local and general treatment, the surface of these piles may ulcerate, and cause a discharge of matter, and even the veins may give way, causing profuse venous bleeding. In unhealthy constitutions the mischief may be greater; the inflammation may extend into the cellular tissue which surrounds the rectum or lower bowel; supuration, or the formation of an abscess, may take place; the matter may burrow about in the loose, soft structure, which has no power of resistance, finally making one or more points of exit, either into the bowel or from the surface of the skin in the immediate vicinity of the fundament. Thus is constituted a fistula, a most distressing complaint. The bowels undergo a considerable amount of pressure in their natural cavity, but an undue strain will often cause serious mischief by occasioning partial protrusion thereof. The small intestine is most liable to escape, and though it be but a very small portion, or even some part of the canal which covers the bowels merely, the rupture, or hernia, as it is called, becomes exceedingly dangerous, when it cannot be promptly returned. Rupture is most apt to occur at two points, the groin and at the navel, where there are naturally small and narrow openings.

The pancreas and spleen, like all other organized structures, must of course be liable to morbid alterations, but these are not of so common and obvious a character as to constitute a class of diseases in themselves.

The functions of the kidneys are well recognised, and are known to have highly important relations. In like manner, their morbid states have been carefully investigated, and are thoroughly appreciated. The first office of the kidneys is to regulate the quantity of aqueous fluid in the system, carrying off any superabundance from the blood. In like manner they carry off any surplus of saline or earthy matter which may exist in the blood, thus promoting a constant change and re-arrangement of even the mineral constituents of the body. They also discharge a considerable quantity of animal matter, part of which is derived from effete and worn-out blood, and part is afforded by the same decomposing process exerted on the flesh, &c., as that by which the saline and earthy matters are liberated. We must remember, however, that a large proportion of aqueous, saline, or earthy and animal matter which the kidneys secrete, is derived from recently-taken food when the supply has been superabundant, and the blood is then merely the medium of its transmission.

The kidneys consist of two structures, an outer dark and liver-coloured substance, which is termed the cortical structure, and which seems to consist of innumerable minute capillary vessels, with which small glandular bodies are mingled; and an inner structure of pale colour and fibrous character, which is

termed medullary. The former is supposed to exercise secretive action, and the latter to conduct the urine away. The internal fibrous or tubular structure converges into nipple-like processes, presenting their extremities into a hollow notch, which is situated on the inner side of each kidney. A funnel-shaped membranous bag embraces this said hollow notch, and gradually contracting, it forms a tube, which conveys the urine into the bladder on either side.

In addition to the material derived from the food, the kidneys separate from the blood various matters, from which the respiration cannot free it, but which, if retained, would be injurious to the system. They do not seem properly to separate the same kind of substances which the liver does, but to act on material which the liver has previously modified. Thus, if the liver be wrong in its action, the kidneys will always sympathise with it more or less completely, and by the state of their secretion afford more or less indication of the nature of the original mischief. Thus, indeed, are many unhealthy states of the kidney constituted, in bilious complaints and gout for example. Looking, however, at disorders and diseases of the kidneys, which more especially belong to them, we find that there may be deficiency of secretion, increase of secretion, or a vitiated state of secretion. An inflammatory state of the blood may cause a general diminution of the renal action. Acute inflammation of the kidneys themselves will speedily render the secretion of urine imperfect by interfering with the delicate structure of the organs. Again, urea and lithic acid, which are the animal matters formed by the kidneys, may not be duly excreted, but may be suffered to pass into the general circulation, poisoning the blood, and thereby giving rise to peculiar diseases. The urinary secretion may be augmented, which occurs in the simplest form when the action of the skin is checked. When the amount secreted is very excessive, it constitutes the rare disease called diabetes, and in this disease there is usually a large quantity of sugar contained in the urine. This disease is now supposed to originate in a great measure in the liver, which naturally secretes a small quantity of sugar. Again, the kidneys in a diseased state may excrete a large quantity of albuminous matter, whereas in health there should be none, and this may arise from a peculiar constitutional state, or from mere local irritation. In either case the kidneys soon become altered in structure by a deposition of the albuminous matter in their substance, preventing the natural action, and constituting incurable disease. Excited secretion of the kidney, whether owing to over-indulgence in fermented liquors, or unwholesome and indigestible food, is also apt to give rise to another great mischief. The urine becomes charged with a larger proportion of earthy, saline, or animal matter than it is capable of holding in solution. A portion of these may then become separated in a solid form, either in small particles or masses of considerable size. These constitute sand, gravel, or stone, which may become lodged in any part of the urinary apparatus, constituting most painful and intractable disease. Irritation of the kidney may give rise to a state of slow inflammation, which may alter the texture of the organ in question, and even occasion the formation of abscesses therein.

THE LYMPHATIC GLANDS.

Their office is not well understood, but they must evidently have an important duty to perform in the animal economy, as they are apt to become seriously implicated in many forms of disorder and disease, especially those which come under the denomination of scrofula. There are two sets of lymphatic glands:—firstly, those connected with the lacteal vessels of the stomach and intestines through which the chyle passes, and in which it must evidently undergo some elaborative change tending to assimilate it to the blood. Now, these glands are apt to become enlarged and inflamed, and even the formation of matter may take

place in them, or from a slow and peculiar morbid action there may be a white cheesy deposit in their substance, and this is scrofulous or tubercular matter. The peculiar change which takes place in these glands must originate in one of the three following causes, or all combined: 1, the originally unhealthy character of the nutrient material taken up, owing to the nature of the food being intrinsically faulty; 2, the want of selective power in the lacteal mouths; or 3, the unnatural convertile action of the lymphatic glands themselves. Secondly, we have the general lymphatic glands, which are diffused through every part of the body, and their function is evidently closely analogous to that of the glands connected with the lacteals. Their different vessels bring the lymph under their influence; and this lymph is very similar in its nature to the chyle, and evidently consists of elementary nutrient matter, which having become disengaged, requires modification and re-arrangement before again entering into the current of the blood.

THE CUTANEOUS SYSTEM.

The skin consists of three layers: first, and most deeply the true skin, a highly organized structure, which contains capillary blood-vessels, nerves, and numerous small mucous glands which secrete the fatty perspiration; next we have the mucous coat, a fine vascular membrane, from which the watery perspiration seems to be derived, and which appears to secrete and form the third or outer layer known as the cuticle, which is a mere layer of albuminous matter of varying thickness, of which the office is to protect the tender living surface beneath it. This last coat is believed to extend over the various mucous membranes, which are very similar in structure to the skin itself, with which they are continuous through the different apertures of the body.

The functions of the skin may thus be briefly designated. Being the great medium of sensation, the varying amount thereof will often indicate the disturbance of the entire system; thus, in a severe cold, acute pain or soreness is often experienced over the entire surface of the body. In internal diseases, in addition to any intrinsic pain, the superjacent cutaneous surface often becomes excessively sensitive and tender, thus helping materially to designate the site of the disease. In any disease of its own structure, or the subjacent cellular tissue, the sensation of the skin may be increased in different ways, and the various inflammatory symptoms which coexist with this pain demonstrate that it especially belongs to the cutaneous surface. Variation of the sensitive manifestation of the skin may also indicate special derangements of the nervous system, of the brain, &c. Thus we may have neuralgia, which consists in an excited and vitiated state of a nerve demonstrated in any part of its course, or in the locality of its final cutaneous distribution. At the ordinary temperature of the skin, a certain amount of transudation is always going on; this is denominated insensible perspiration, and is attended with a certain development of carbonic acid gas; the check of this transudation and development by cold, damp, atmospheric pressure, or peculiar electrical influence is always prejudicial, and constitutes a common first cause of disease. The contact of cold air may temporarily lower the temperature of the skin without prejudice; but in many instances, where the vital power of the system is lowered and depressed, the cutaneous temperature may be under the ordinary standard without any such cause. Perspiration may take place in great excess as compared with the antecedent vascular action, depending on an irritative state of the system, and it may also be connected with a general relaxed habit and a deteriorated state of blood, without any special febrile action being involved. The two outer cutaneous layers being in a great measure composed of albuminous matter derived from the blood, present a special tint according to the nature of the constitution; thus the complexion of the individual is naturally

dark or fair, and in morbid states the ordinary cutaneous hue may vary in shade or clearness, and even the tint may be decidedly changed, as in jaundice.

Deviation from the due performance of the cutaneous function will therefore characterise most constitutional morbid conditions; but, moreover, the skin has its own peculiar states of disease in which it undergoes still more obvious changes. Thus Erysipelas is a peculiar inflamed state of the skin itself, and so likewise are Scarlatina and Measles. Small Pox and Chicken Pox present a cutaneous inflammatory condition of different characters: the first tends to the formation of small semi-globular collections of purulent matter, which are called pustules, and the second to the formation of small collections of serous matter, which are termed vesicles. But though these and other diseases localise themselves in the skin, yet their primary origin is derived from the state of the blood, which must have been altered and vitiated previous to the cutaneous manifestation. Chronic rashes and eruptions of the skin may depend on peculiar constitutional states, or the morbid condition may be essentially confined to the skin itself. In reference to very many of the milder complaints connected with the skin, it is curious to notice that they seem to originate in some irritation of the mucous membranes, especially of that of the alimentary canal, and, as we have already mentioned, this is actually continuous with the skin, and the irritation thereof would thus seem to pass along it to seek an external sympathetic development.

THE NERVOUS SYSTEM.

All sensation, all animal motion, and nearly all organic movement, are ultimately contingent on nervous endowment, and in its examination we therefore shall arrive most nearly at an appreciation of the nature of the functions in question in both health and disease.

THE ORGANIC NERVOUS SYSTEM.

The morbid states of this portion of the nervous system are not easily recognised individually, but whenever nutrition, secretion, or involuntary motion are concerned, their organic nerves cannot fail to be more or less implicated. The original conformation and disposition of the organic nervous system directly influences the entire organization of the body, and its derangement may produce an immediate mischief, or it may derive its morbid impression and influence from an unhealthy state of the blood, or from a peculiar condition of the great nervous centre. The organic nerves are not apparently endowed with sensation, in the ordinary acceptance of the word; doubtless they receive impressions, which they duly appreciate locally, and react upon them, though the sensation is not transmitted through the brain, so as to be evidently perceptible.

A certain series of movements is constantly going on in the economy under the influence of the organic nerves—the movements of the stomach, those of the intestines, those of the heart, &c. We cannot appreciate all these fully, but we can recognise them sufficiently to be thoroughly aware that any undue suppression or alteration of them beyond certain limits is incompatible with the maintenance of health. The involuntary movement may be increased or diminished by any interference with the organic governing nerves, either immediate or mediate, through sympathetic influence. Thus, on the one hand, the action of the heart may be weak, or the intestine lack contractile power; while, on the other hand, the heart may be in an irritable and excited state, or the contractions of the muscular structure of the intestines may be unduly active or violent; or again, in either case, the regular and equable muscular action may become irregular and uncertain, and even almost the reverse of what is customary. Pain very often is a marked accompaniment of organic muscular spasm. We can

recognise a long list of ailments which are more or less connected with the above various states—dyspepsia, constipation, palpitation of the heart, spasmodic diarrhoea, some forms of vomiting, &c. The spasmodic derangement of the involuntary muscles has an analogy to both the convulsive and spasmodic states affecting the voluntary muscles.

THE NERVOUS SYSTEM OF ANIMAL LIFE.

Pain is liable to much variation in nature and degree, and its peculiar character often affords a clear indication of the special nature of the disease which exists. The most acute pain is experienced in some of those complaints which affect the nervous system itself; in neuralgia for example, where the sentient nerves are in a highly excited state, from being themselves diseased, or in close sympathetic communication with some diseased part. The pain connected with inflammation of any of the fine membranes investing the internal organs, the brain, the lungs, the bowels, &c., is of very severe character; whereas that arising from inflammation of the substance of the organs themselves, is not so intense and acute. The aching pain connected with rheumatic complaints is of peculiar character; while the throbbing, plunging pain occasioned by the formation of matter, is essentially distinct in its nature. These differences in the kind of pain must depend on the peculiar relations which exist between the nerves and the capillary vessels of the part affected, and perhaps on the special nature of the blood in the existing disease. Spasmodic pain, such as occurs in colic, &c., is essentially of nervous character, but it probably often depends in part on mechanical pressure of the nerves, from irregular muscular contractions. It may gradually assume an inflammatory character, or the two states may be combined, so as to render it difficult to decide which is the chief ingredient. To distinguish between spasmodic and inflammatory pain is of great importance, especially in affections of the chest and abdomen, and the following points of difference will usually enable us to decide. Spasmodic pain is more or less intermitting or remitting; it is usually relieved by pressure, or at any rate gradual and steady pressure can be borne; and it is not commonly accompanied by any feverish excitement. Inflammatory pain, on the other hand, is constant, and mainly without variation; it is made worse by pressure or any movement of the part affected, and it is attended with more or less fever and general constitutional disturbance. The special local symptoms afford additional guidance. To make the distinction between the other form of nervous pain, medically known as neuralgia, and inflammatory pain, may also be difficult, though of great consequence in reference to treatment. The sharp lancinating character, and the absence of febrile excitement, designate the former; and also the locality of the affection serves to guide us, as neuralgia is more apt to occur in some parts of the body than in others, especially in the course of nerves; and moreover, experience will tell a medical man in what kind of temperament, and in connexion with what form of constitutional disturbance, he may anticipate neuralgic rather than inflammatory affection.

The sentient nerves may also be affected with loss of power, which may occasion deficient feeling of local or general character, and this may amount even to paralysis of sensation. These states may depend on disease of the brain, or may be occasioned merely by affection of the nerve itself. The latter case is more common than the former, and may depend on a chill or any local injury.

The motor nerves govern the voluntary muscles, and excite them to action. As already shown, they convey to them the dictates of the will. Such is their office in a state of health, but in disease it may be materially interfered with. Thus, in cases of chill and rheumatic complaints, the very extremities of the motor nerves seem to become affected, and partially to lose their power. Again, local disease or injury may affect the trunk of a nerve, paralysing all the muscular

structures supplied by it; or the mischief may be more serious, implicating the spinal marrow, through the medium of which the majority of the motor and sentient nerves are connected with the brain. Finally, the loss of motor power in the extremities of a certain set of nerves may indicate a diseased condition of the brain itself—a failure of function in the great centre nervous action. There are many diseases which embrace a disturbed and excited state of the motor nerves, and the states thus constituted are very peculiar. The first influence of these diseases is to remove the motor power out of the sphere of the will, and to render it automatic and involuntary. Convulsive action is the commonest derangement of muscular function, in which it assumes a state of excitement. This convulsive action is, however, liable to vary greatly, both in character and degree; it consists of sudden and unaccustomed contractions of the voluntary muscles, taking place intermittently, and independently of volition, generally without pain, and often without consciousness. Hiccough is a convulsive action, so is coughing, and so likewise is vomiting for the most part: we are aware of these taking place, but we cannot control or prevent them to any extent. These irregular forms of muscular action, as well as others which are more highly morbid, are more or less dependent on reflecto-motor influence; that is, they arise from an impression which is not necessarily conveyed to the sensorium, but merely to the nervous axis of motion, whence it is reflected in some peculiar convulsive action; thus, in coughing, there may be a peculiar irritation of the lungs, causing no pain or peculiar sensation; this, however, is transmitted to the motor nerves, which affect both voluntary and involuntary expiratory action, and their excited and irregular efforts constitute cough. The more intense forms of convulsive action, such as infantile convulsions, hysterical convulsions, epileptic convulsions, are preceded by loss of consciousness and sensibility, more or less complete, showing that the sensorium is implicated in the disease; but even in such cases it is probable that the convulsive action is in some measure independent, and connected with reflecto-motor influence.

Spasmodic action consists in involuntary muscular contraction, more or less permanent in its character. It is liable to affect the organic muscular structures, and it is also a common derangement of the voluntary muscles. It differs in nature and intensity, varying from the simple muscular cramp to the most violent lock-jaw or tetanus. As a rule, spasmodic action does not take away consciousness, and any pain which it may occasion seems to depend on compression of the sentient nerves by the violent muscular contraction. Of the simple morbid nervous states there are various combinations: thus, in common fainting, or syncope, we have loss both of sensitive and motor power, and in some forms of catalepsy the deprivation is still more complete; in catalepsy also, motor power may be more or less suspended, and sensation remain; or sensibility may be quite in abeyance, and yet some contractile power continue, which may give rise to muscular movement, or at any rate enable the muscles to maintain a fixed state.* In hydrophobia there is increased sensibility combined with convulsive and spasmodic action. In a common rigor, or shivering fit there is slight convulsive muscular action, and the same result may arise again and again from an ague state.

* All mesmeric phenomena come under this category.

THE PRESERVATION OF HEALTH.

AIR, VENTILATION, ETC.

Air is essential to life, and in a great measure it is by respiration that it is made available. If there be a deficient supply, or much impurity, our very existence is interfered with. The blood no longer undergoes the necessary change, and animal heat is no longer fully generated. Thus, the entire system lacks its due stimulation, and health can no longer exist; or, the strength of the body being gradually diminished, other causes of malady are enabled the more easily to exert their influence.

The power of self-diffusion possessed by atmospheric air in a great measure prevents the supply from being very deficient; for, shut ourselves in our rooms as closely as we will, air finds ingress by every crack and cranny to exert its beneficent influence. But still there may be some amount of deficiency from the access being impeded, or from the demand being more than equal to the supply; and such cannot be the case without the production of injurious effects, which may be slow, yet not the less sure in their manifestation. The first cause of the deficiency of atmospheric air depends on bad ventilation, when the air has no thorough passage, its entrance and exit being alike impeded, so that it is no longer supplied as fast as used, but is replaced by a quantity of hurtful vapour. This is principally the case in close, hot chambers, such as bed-rooms, school-rooms, on board ship, in mines, &c. Natural ventilation is good, but if air be too rapidly consumed by respiratory combustion, so that the supply is no longer equal to the demand, then useless and hurtful vapour must accumulate. Such is the case especially in crowded churches, hospitals, and public assemblies of various kinds. The causes in question will usually combine in occasioning the deficient supply of atmospheric air, as was the case in the horrible catastrophe of the Black-hole of Calcutta; but it is well to be able to assign the amount of influence exerted by each in endeavouring to remedy the evil. By ventilation is meant the renewal of air, and the principle on which it depends is this: as the air at the lower part of a chamber becomes warm, it expands and becomes specifically lighter than the rest; it then ascends and displaces the higher portion of the air, which, being cooler and heavier, descends. The second portion of air, however, becomes still warmer than the first; it, therefore, re-ascends and displaces the first portion again. Thus, an ascending and descending current is formed, and this process tends to go on continuously. If, however, there be sufficient apertures in or near the upper part of the chamber, the heated air will escape; and it will only require an equable and constant supply of air at the lower part of the chamber to insure a sufficient ventilation in proportion to its area. The entries for air must be diffused and divided, for if it enter but at one point, a violent current or draught will be occasioned. The opening in the higher part of the chamber may be through the upper parts of the windows, through the walls near the ceiling, or through the ceiling itself, when near the roof. A valvular opening from a room into the upper part of the chimney, the apparatus for which is known as "Arnott's Chimney Ventilator," may often be

adopted with advantage; and wherever gas is used, the adaptation of a chimney over it, communicating with the external air, conduces much to the efficient ventilation of a room, as well as having the advantage of carrying off the noxious products of gaseous combustion. A fire is always a means of ventilation, though, from being near the lower part of the chamber, it is imperfect; but I have no doubt that, by proper mechanical arrangement, stoves and grates might be made efficient agents of ventilation, and of the distribution of pure warm air. This point certainly requires much more attention in our domestic architecture than it has hitherto received.

Other causes besides those noticed may interfere with a due supply of atmospheric air, and which are essentially connected with the consumer himself. There may be some physical impediment to the access of air into the lungs, as is the case in strangulation and suffocation of various kinds, and it also occurs in many forms of disease, where the structure and organization of the air-passages, and even of the substance of the lungs themselves, are interfered with, as in croup, inflammation of the lungs, &c.; and, indeed, it is this very impediment to the access of air which mainly constitutes the danger of such diseases.

Daylight is highly beneficial to the living being, imparting a genial stimulus alike to animal and vegetable life; and thus, therefore, we ought to endeavour to live by day as far as possible, and not, like owls, make the hours of darkness our chief time of exertion and occupation. In many respects the air of day is far preferable to that of night, which is generally much charged with damp and unwholesome vapour: in hot countries this is especially the case. There is usually much difference between the temperature of the day and the night, which is often unpleasant and even injurious in its effects, and the disparity is made still greater from our rooms being more closed and more heated at night than in the daytime. A proper increase of clothing is always some safeguard against the change and exposure, but it cannot prevent the access of cold air to the lungs, which, when they are in an irritable state, may be very prejudicial.

A constant supply of pure fresh air is no less essential to the sick than to the healthy. In all fevers and diseases of low character it is of the highest importance. In most complaints the air of the sick-room should be moderately cool, and where a higher temperature is desirable, there is still no reason why, with proper management, the air should not be kept fresh and pure. A fire is usually kept for the purpose of heating a sick-room, but it should also be done for the maintenance of ventilation, which it materially promotes.

EXERCISE.

Bodily exertion is essential to the well-being of man; for by exercise not only are the muscles rendered stronger, and enabled to act with greater facility, but the health and general tone of the system are improved and elevated. General muscular action is necessary for the due maintenance of respiration; it also promotes the circulation, urging the current of the blood through arteries, veins, and capillaries in its onward course; and so likewise does it facilitate digestion, by the varying pressure which the muscular abdominal walls exert on the organs contained in the cavity of the belly. Thus indirectly the processes of secretion and the nervous functions derive energy and power. By promoting the development of the animal frame, exercise tends to give length of days, and imparts zest and enjoyment to life.

Gymnastic exercises have been much the fashion, but, as a general rule, they cannot beneficially supplant walking or riding, and the ordinary sports of youth or manhood. Walking is far superior as exercise to riding, which as a supplement, however, is never objectionable in moderation, and may be preferable where, from debility or lameness, there is any hindrance to exercise on foot.

The games of childhood may be varied and modified so as to impart every benefit that can be derived from gymnastics, but it is desirable, in a sanatory point of view, that a graceful carriage and good walk should be taught in early life; and it would be well if it were more attended to both in public and private instruction.

The amount of walking exercise which should be taken daily must be varied much according to circumstances, but I do not think that, as a general rule, either man or woman of moderate average strength, and with ordinary diet, can expect to maintain health without from three to six miles daily of walking exercise or its equivalent.

The exercise and employment of the mental faculties also tend to promote health; at any rate, in an indirect degree. It relieves the tedium of mere mechanical and physical occupation, and so moderates the exhaustion consequent on the wear and tear of our bodily strength and energy. It affords a genial stimulus, promoting corporeal development directly and indirectly; and when combined with moral and religious cultivation, cannot fail to enhance the general well-being of the human creature.

REST AND SLEEP.

It is absolutely necessary for the well-being of the animal frame, that at intervals there should be more or less respite from bodily exertion. The bow of life must not always remain strung, or it will lose its elasticity and power. A sense of fatigue and lassitude indicates the necessity of repose, and the general example of nature, together with the darkness of night, bid us yield to the restorative influence of sleep. Our animal powers are then suspended, our mental faculties undergo temporary annihilation, and we are reduced to a state of negative or vegetative existence. But vital agency is still busily at work, on the one hand silently applying itself to the destruction and removal of worn-out and useless material, and to effecting the nourishment and arrangement of the various elements of our organization; while, on the other hand, it concentrates and accumulates fresh nervous energy for the toil and strife of the morrow.

Sleep should be as perfect as possible; we should cultivate and carefully observe those conditions which tend to promote and secure its natural and healthy enjoyment. For this purpose sufficient exercise should be taken in the day; the food should be moderate in quantity, particularly towards evening, or the digestive process will require too much vital energy, and divert it from its proper purpose; the sleeping chamber should be well ventilated, and too much warmth should not be indulged in, either by means of bed-clothes or fire. When there is difficulty in obtaining sleep, sponging the surface of the body with cold water, and the subsequent use of the flesh-brush or a coarse towel, will often serve to induce it; and it is also highly desirable that the feet be kept warm.

The time requisite for sleep varies in different individuals. Where the constitution is weak and phlegmatic, more will be required than when it is of a robust and sanguine character. From six to eight out of the twenty-four hours will generally be sufficient for an adult. The allowance of sleep must be partially regulated by the amount of bodily and mental exertion and fatigue which is undergone. Habitual indulgence in excess of sleep is apt to originate in irregularity of living. It soon acquires the force of habit, and will slowly enervate the body. For infants, however, a much greater proportion of sleep is required than for adults; from twelve to eighteen hours is not too much, as the greater part of their vital energy should be devoted especially to the processes of organic life, and to effecting the maintenance and increase of the body, while the animal power assumes only a subordinate and more gradual development.

As bodily growth is going on, there should be a greater proportion of repose and sleep than with the adult.

CLOTHING.

We ought, as far as possible, to adapt our clothing carefully to the variations of atmospheric temperature, &c., making it light or heavy, cool or warm, according to circumstances. Woollen material constitutes the most valuable part of clothing for the British climate; it prevents variations of the weather affecting us as much as might otherwise be the case, and has the advantage of combining lightness and warmth. Flannel should always be worn next the skin in the day-time during at least two-thirds of the year, and should only be omitted in the summer months by those who are strong and healthy; it serves to maintain the skin at an equable temperature, and prevents the perspiratory action from being checked; and thus it is certainly a great preventative of many maladies. Where there is much tendency to rheumatism, both limbs and trunk should be cased in flannel; but if the complaint presents a neuralgic rather than an inflammatory character, an external covering of thin silk, such as sarsnet, added thereto, will be found to increase its efficacy materially.

In causing an unnatural degree of warmth, too much clothing relaxes and weakens the body, and prevents the system from being duly dependent on its own resources for the generation of heat. It also may interfere with freedom of motion, but this is more especially the case when the dress occasions any undue amount of tightness and pressure, which is too often the case in female attire. The mischief of tight lacing cannot be too strongly reprobated; it must occasion distress and inconvenience at the time, but the injury which is inflicted by the compression of the internal organs is incalculable, and though it may not be recognised at the time, yet it will most assuredly lay the foundation of permanent suffering and disease. Undue confinement of the feet in tight shoes and boots, for the sake of appearance, or at the caprice of the shoemaker, is another matter of folly, by which a subsequent penalty is almost always incurred; for such is the invariable source of corns, bunions, and ingrowing toe-nails. The clothing of females is very apt to be injudicious; it may be abundant in quantity, but, by its arrangement, it often conduces neither to comfort nor the requisite warmth. The due clothing of the feet is of the highest importance, especially for females; for if their dryness and warmth be not maintained, the health is always endangered. To keep the feet warm and the head cool is a maxim of health as true as it is old. The head is often kept far too hot, especially in infants and young children. The clothing of children is frequently ill-adapted to their requirements; too little woollen material enters into its composition generally, and I feel assured that a want of due protective covering in cold weather, to which young people cannot be prevented from exposing themselves, is a fertile cause of malady and death.

CLEANLINESS.

The influence of cleanliness on health cannot be too strongly insisted on. If the skin be not kept free from the incrustation of dirt and the natural secretions, its office cannot be duly performed, and any interference therewith will not fail to affect the internal organs, especially the liver, the lungs, and the brain. Want of cleanliness, moreover, is recognised as the commonest cause of diseases of the skin.

To inculcate habits of cleanliness in children is of the highest consequence, not only for the sake of health, but also as tending greatly to promote moral feeling and self-respect.

In addition to mere cleanliness, nothing can conduce more to the health of the skin, and enable it better to resist any prejudicial influence of temperature, than daily ablution in cold water, and frequent friction of the surface. It will also have a general strengthening effect, and tend to diminish the irritable and relaxed state which accompanies the imperfect development of animal heat, especially in young children.

Those who necessarily soil their persons by the nature of their occupations, or whose laborious employment causes much perspiration, should frequently resort to warm ablutions. Warm baths, at a temperature of from 90 to 95 degrees, are of the greatest advantage, not only affording comfort, but dispelling fatigue, and renewing the vigour of the body. No fear need be entertained of their relaxing or debilitating effect, so long as they are not taken too warm, or remained in too long a time.

Cleanliness does not, however, consist in mere ablutions, but should pervade our mode of living and all our habits, and will, in every respect, conduce to health. What can be more offensive to any person, coming out of the pure fresh air, than to enter a close, noisome apartment, where one or more persons have been stifling themselves for hours? and what can be more unwholesome for those persons themselves than inspiring again and again that vitiated air which every minute becomes more unfit for the purpose of respiration? How disgusting is the breath of some persons from neglecting to cleanse the mouth and teeth!

CLIMATE, ETC.

Climate is the peculiar atmospheric condition which generally prevails in any particular locality, and is regulated and modified by a great variety of circumstances. In different latitudes we find wide disparity of seasons, as to their duration, temperature, moisture or dryness, prevailing wind, &c., while the elevation, the soil, the distance from the sea, the absence or presence of water, &c., will also occasion great local differences. All these states must exert a material and important influence on the human frame.

Temperature is a primary and essential element of climate, and in close connexion with its other peculiar conditions; and to it, therefore, we will now especially refer. Cold may be considered as the state of temperature on an average lower than that which is natural or agreeable to our feelings. The decided tendency of cold, when its action is not checked or counteracted, is to lower and depress vital power. But the bodily system is not passive and yielding to the direct influence of cold, when within certain limits; its vital elasticity causes it to react, and, unless the immediate impression be overpowering, a tonic and stimulant agency is effected through this reaction. Thus the sudden application of cold water to the surface will be succeeded by a suffusion of warmth; thus, again, a clear, cold, frosty air will occasion a glow and excitement through the frame, when reaction is promoted by exercise. After exposure to cold, reaction may not ensue until the body is placed in a more genial atmosphere, and then the reaction may be out of due proportion, imperfect or violent, and if either of those states persist, disease results. When such is the case, the reaction is generally irregular, even when violent. Heat may be considered as that state of temperature which is higher than the average to which man is accustomed. The direct effect of heat is to stimulate and excite vital power; it cannot, however, do this without a powerful secondary or indirect tendency to cause exhaustion, especially if the heat exceed a certain point, or the economy be too long exposed to its action, even when moderate. Heat and cold have each two very distinct modes of influence, of which I do not think the due relation is altogether appreciated, though undoubtedly the recognition is of great importance.

The combination of wind with any degree of cold increases its effect very

materially, inasmuch as the cold air is constantly being renewed, and thus the animal heat is more rapidly conducted away. Moisture also causes the effect of cold to be more severely felt, and, at the same time, checks the general action of the skin, so that a more injurious influence is thus exerted. When the atmosphere is in a heated state, it is rendered much more pungent and disagreeable by the absence of moisture, and the hot winds of the East, and those which are experienced to some extent in Australia, are described as well nigh unbearable; from their irritating influence, they commonly occasion ophthalmia and cutaneous eruptions, but otherwise, except from their exhausting tendency, they are not so very prejudicial. The combination of moisture with heat is, however, far more unhealthy, especially in low situations, where vegetation abounds and water is stagnant. In this we have the primary cause of the fatal fevers of Africa and of the West Indies; though doubtless, when once in existence, they may be perpetuated and transmitted by contagious influence.

The special morbid tendency of cold is to produce affections of the respiratory organs, and this may be readily understood. The blood driven from the surface naturally tends to accumulate in the lungs; and this, with the increased activity of the respiration in preparing fuel for the maintenance of animal heat, gives rise to a degree of pressure and excitement, which may rapidly pass into disease. Apoplexy, bleeding from any internal organs, and also rheumatic disease, commonly result from an undue interference with the functions of the skin by cold. Heat seems to have a special injurious influence on the liver. It is said to excite it; probably, however, this does not take place in a direct manner, but is thus effected: excessive heat causes a constant and copious drain of aqueous fluid from the blood through the skin, and thus the blood has a tendency to become more inspissated and richer; pulmonary influence is at the same time less active, especially as there is less necessity for preparing the material for the generation of animal heat; and as there is less than the average exercise taken in warm climates, the pulmonary circulation is not thereby promoted. Thus, the purification and decarbonization of the blood in the lungs is apt to be somewhat imperfect, causing a greater amount of duty to be thrown on the liver, and rendering its action inefficient; and from the combined causes in question, a congested and engorged state of the organ is instituted. The majority of other diseases connected with the permanent influence of heat are occasioned by its exhausting effects, to which the peculiar constitutions of some persons, coming from temperate climates, are more especially amenable, but to which, in the majority of instances, the system is rendered liable from not being duly accommodated by proper regulation of diet and regimen to the change of relation.

The external temperature which, on an average, is most genial and healthy for the human constitution, is from 50 to 60 degrees of Fahrenheit's thermometer. The animal economy can, however, accommodate itself to much variation from this standard, and, with due precautions, has alike the power of resisting extremes of heat and cold; in some parts of the globe these are excessive, but the British climate is far less subject to them; its average temperature is moderate, but at the same time, within its own limits, it is more variable than the colder and hotter climates, and even than those of large continents. Thus, we frequently have very sudden changes of temperature, even within a few hours, and often to a considerable extent; the amount of moisture which affects our atmosphere, from our insular position, also promotes variations especially tending to sudden falls.

The peculiar nature of the British climate gives a somewhat special character to the complaints which we are most subject to. Scrofula, consumption, inflammatory diseases of the lungs, rheumatic affections, and bilious complaints, assume marked forms, and may often be traced to originate in the variableness

of our climate, and the great degree of moisture which is apt to affect our atmosphere. Much, however, may be done to counteract these disadvantages, and it would often be well if we took more care and made a greater effort to prevent and to anticipate them, than if we trusted merely to the constitutional integrity and power of resistance.

The extremes of temperature are both alike injurious. When the climate may be termed even merely warm, rather than hot, it certainly does not appear so favourable to longevity as that of which the temperature may be termed cool, which seems to rouse the constitution to more energy and endurance, though certainly it does not bring the human frame to such early maturity. But even temperate climates assume a mixed character, and if we contrast the conditions we shall arrive at the following results in reference to the influence exerted on health: warmth may lower the tone of the system and relax the body; it may occasion much indisposition and inconvenience; and if accompanied by much moisture, it may give rise to serious ailment. Cold, on the other hand, rouses the system to reaction and excitement, which, if the constitution be equal to the impression, is conducive to the best of health; but if there is much irritability or morbid sensibility, with or without debility, then cold may cause the most severe disorder and disease; and when moisture is combined with cold, this is especially the case. Thus, we find in England that the cold weather as a general rule, is attended with a greater amount of fatal and dangerous disease than is apt to occur in that which is warm. It is not, however, so much the mere prevalence of cold and heat in our climate that occasions the institution of disease, as the sudden and frequent variations, to which the constitution has not time to accommodate itself. Even if not of great extent, their frequent repetition, accompanied by alterations in atmospheric pressure, make much impression on the system. As a general rule, variation of the weather in any direction will exert an unhealthy influence; but even as, in the abstract, weather accompanied by a cold temperature is most hazardous to health, so the change from warmth to cold is usually more seriously prejudicial than when the reverse is the case.

Different constitutions are differently influenced by similar atmospheric states and variations. Some persons will be little, if at all, affected by them, some will feel the effect of cold, and others that of heat; and again, the combination of cold and moisture will be more prejudicial to some individuals, while warmth and moisture may be more injurious to others. The influence which is exerted by climate on the bodily health, when at its average, is still more active and potent when transition into a state of disease has taken place; and thus our attention is strongly directed to what is termed change of air as a sanatory means, and one which is often of the highest importance. Many unhealthy states of system, occurring in a moist atmosphere, may be materially benefited by removal into a drier one. When a weak and irritable constitutional condition seems to be prejudicially affected by keen cold air, the change to a warmer locality will be attended with the greatest advantage, and even a certain degree of moisture may not be objectionable; the relaxing and debilitating influence of mild air, especially if accompanied with stagnant moisture, can be counteracted by resort to a situation where the air is pure and bracing; and when the health, though usually good, seems failing without any appreciable cause, let the residence be town or country, then it will often be found that sea-air will exert a powerful alterative and restorative influence, especially if the locality be otherwise suitable. Little need be said in advocacy of the advantage of country air over that of town, and of the benefit we derive by occasionally availing ourselves thereof by change of residence. All are sufficiently aware that the air which is contaminated by smoke, sewers, and want of free circulation, cannot be as congenial to life and health as that which is pure and fresh. The tables of com-

parative mortality make the fact fearfully evident; and even acknowledging the occupations and mode of life in large towns to conduce to the disadvantage in question, it still no less forcibly inculcates the greater need of sanitary precautions, both personal and general, for the counteraction of the mighty mischief which exists.

A northern aspect will probably be cold, and it is not desirable to be exposed to the searching and hurtful influence of the east wind. A high situation may be dry, but its exposure will render it liable to the influence of every change of weather. A low situation may be warm, but if badly placed, may be damp and unwholesome, especially if there be much vegetation adjacent. A clay soil, if undrained, will surely render a locality wet and cold. The close proximity of water, either in a running stream or an open space, cannot fail to render the atmosphere moist, and at times to a great and hurtful extent. Thus, even in the same vicinity, attention to the local conditions which I have enumerated may have a material influence on health, and demand the best consideration from those who have any particular morbid tendency. It is true that many persons apparently enjoy the best of health in the most unhealthy localities; but this is only the case with some, in whom the constitutions, especially when strong, may have become habituated and seasoned thereto, for careful scrutiny will not fail to demonstrate the hurtful influence on health, and even on the duration of life, urging us to remedy the existing evil by the adoption of appropriate means.

It is especially desirable that emigrants, and even those going abroad for a temporary purpose, should study to adapt themselves to the peculiarities of the climate which they are seeking, and be acquainted with the influence which they tend to exercise on health; for if not duly prepared for the change of circumstances, inconvenience and even danger may result. Exercise, clothing, and diet must be modified, and suited to the change, according to the principles set forth under the heads of those subjects respectively. Where the constitution is healthy, due precaution will enable it to encounter the heat of India, or the cold of Canada, without danger; and in Africa and the West Indies, where heat and moisture combine to occasion the most fearful and fatal diseases, prudence and temperance, with careful attention to the digestive functions, will do much to maintain health.

The tide of emigration at present flows strongly towards Australia and New Zealand; but though their climates are comparatively better than our own, yet the change to them cannot be accomplished without risk to some constitutions. A few minutes devoted to the subject will, therefore, not here be out of place. A mild and equable climate characterizes both Australia and New Zealand; but a drier state of atmosphere prevails in the former country, while there is more moisture in the latter. Winter, in our sense of the word, does not exist; and the seasons are of more lengthened duration, and with little interruption. As a general rule, when change to a warmer climate can be well borne, or is desirable, residence in Australia will be beneficial; otherwise the reverse will be the case. Thus, we might expect that irritable conditions of system would abate, but states of debility and relaxation would be aggravated, and their mischief accelerated; and we find such to be the case, if we examine the accounts which we receive as to the mortality which takes place and the diseases which are prevalent. There is a large proportionate mortality of those infants who go from this country, or who have been born soon after the arrival of their mother in Australia, especially if that take place in the wet season or in the heat of summer; feeble in existence, and readily impressible, they sink from the exhausting influence of the climate. Those who go to Australia or New Zealand in youth or adolescence have the greatest advantage; their constitutions become accustomed to the peculiarity of the climate, as it were naturalizing them thereto.

To those who are in the prime of life the change is not so beneficial, the tone of the constitution not being promoted; it misses the variations of weather, especially those tending to cold, which were wont to rouse it to reaction and excitement; thus at middle-age the change of climate will often give an unfavourable inclination to the down-hill path of life. At an advanced age, however, residence in the distant climates which we are speaking of exerts a most genial influence, and is generally acknowledged materially to lengthen the period of existence. It seems to husband and promote vital power when once on the ebb, avoiding all the undue stimulation and excitement which tend most powerfully to occasion disease, when once life is on the decline.

Neither coughs, colds, diseases of the kidneys, rheumatism, nor gout, are of very common occurrence in Australia or New Zealand. This is, undoubtedly, due to the mildness of the weather, and its more permanent and unvarying character; and the free action of the skin thus constantly maintained probably causes the relief experienced by the new-comers who suffer with dyspepsia. Neuralgia and nervous weakness are unfavourably affected by the climate; it is injurious in serofulous cases; and when once consumption has assumed an active development, it hurries it to a fatal termination, especially in New Zealand. In the early stage of consumption, however, of which irritation, tending to inflammation, and active hæmorrhage from the lungs, is the essence, then the change to Australia may check the approach and progress of the disease. Low fevers of bilious and remittent character seem to be the most prevalent diseases in Australia. In summer, ophthalmia, sores of the lips and mouth, and skin diseases, are common; and in the spring and autumn, when there are sudden and unwonted changes of temperature, diarrhœa and dysentery are of common occurrence.

DIET, ETC.

Health is essentially connected with the nature of our food; that is, with its being sufficiently wholesome in its nature, and neither deficient nor excessive in quantity. This constitutes the question of diet, and though common sense dictates sufficient rules for ordinary guidance, yet those very rules are often violated; and, moreover, with persons who are invalids, or not in the enjoyment of average health, those rules are not applicable, but require considerable modification. Thus, in a treatise on health, some comment on diet is requisite.

Animal food is most analogous and similar to those materials of which the body is composed; it is, therefore, more readily digested, and affords more nourishment and stimulus than that which is vegetable. It tends, however, to putrescency, and requires prompt and sufficient digestive and secretive power; these must usually be aided with a due proportion of exercise, as it is thereby that the demand for nutrient matter is prompted, and its expenditure regulated. If the supply of animal nourishment be in excess, the blood will become unhealthy, and the entire system will become clogged up and inactive. Thus a congestive tendency will be occasioned, which may give rise to bilious attacks, bleeding from the lungs, apoplexy, &c.

Vegetable matter is originally the basis of all animal matter, which is formed from it, and therefore naturally constitutes part of man's food. Its softer texture and peculiar nature render it the more readily soluble in the stomach in the first instance than animal matter, but the subsequent part of its digestion is no doubt effected more slowly and with greater difficulty. The mode in which the digestion of vegetable food takes place undoubtedly differs materially in some respects from that of animal food, as the quantity of starch and sugar which exist in the former have to undergo peculiar chemical action; and if that goes wrong, digestive and general constitutional derangement is apt to ensue.

Food is taken with a twofold object: firstly, to supply and replace the materials of our organization, which are constantly being removed and passing away, after lasting their time; and secondly, to afford the material for respiratory action, which is, in fact, fuel for the maintenance of animal heat. The various tissues of the body consist principally but of a few simple elements variously combined and arranged, which are derived from the dissolution, more or less complete, of the ordinary articles of diet, that portion which is useless being in a great measure rejected and discharged. Oxygen, hydrogen, nitrogen, and carbon, with a small proportion of mineral and other substances, are the ultimate elements to which the food can be reduced. They are all found in vegetable food, but the nitrogen, which is very essential, is in small proportion; they are all present, also, in animal food, but the nitrogen is in large proportion, and the carbon is available more readily than that in vegetable food. All these elements are wanted for the nourishment of the body, and it is very apparent why the combination of animal food with that which is of vegetable nature is desirable—viz., because the nitrogen and carbon are more easily afforded by it, more promptly, and with less chemico-vital exertion. The chief food for respiratory action is carbon, and this is no less essentially requisite than the food which is applied to the general nourishment of the body; on the average, this is readily afforded by the different kinds of food; but when there is any temporary deficiency, or the due supply or appliance is interfered with from any particular cause, then the respiratory consumption derives its supply from the store of carbonaceous matter which has been accumulated in the system in the shape of fatty substance. It is through this means that emaciation takes place in cases of starvation, and in acute illness, when the digestive powers are unable to devote themselves to the preparation of a due carbonaceous supply. Under the head of respiration, some explanation has been given of the manner in which carbon is made available for the production of animal heat.

Milk contains within itself all the substances which are requisite for the nourishment of the body, and the maintenance of respiratory action. In its appropriate kind it suffices for the sustenance of the infant and all other young animals, but as growth advances sustenance is more readily and advantageously derived from other and more varied kinds of food. As a partial article of diet for the adult, milk is highly valuable, but alone it would not be sufficiently concentrated and solid to afford the requisite stimulus and support. And, moreover, digestion does not seem to render milk so readily applicable to the purposes of the economy, especially when there is much natural acidity of stomach. Eggs are much more available as food, and when boiled hard afford a strong and sufficient nourishment; it would not, however, be agreeable to the stomach that they should constitute our sole aliment without the admixture of other food. Variety and occasional change of diet certainly promote digestion, and is conducive to the general health.

Food requires a certain amount of dilution and diffusion to fit it for the nourishment of the body, and to facilitate the distribution and removal of the different materials of its structure. A large amount of water must, therefore, enter into the composition of our diet, either in its simple form or combined with the various articles of food, and it is even probable that a certain portion of water is formed within the body from the primary elements, oxygen and hydrogen, afforded by the inspired air and the various ingredients of our food.

In reference to food we have to consider quantity and quality. Excess in eating is a very common fault, and though much is said about persons drinking themselves to death, yet I believe it to be far more frequently the case, though the process may be effected more slowly and silently, for persons to kill themselves with eating—"to dig their graves with their teeth." Over-feeding is often commenced in childhood, and even infants are fed immoderately, without

any regard to how much or how often; but in acquiescence with an unnatural craving, which is usually a habit acquired by degrees, being often promoted by the unwholesome and stimulating nature of the food. The stomach of an healthy adult will relish and digest any ordinary kind of food, and the dictate of appetite must be the guide as to quantity, stopping short of any sense of undue fulness; due regard should be paid to an average of supply, and the amount of previous exertion must also be taken into account. From half to three-quarters of a pound of uncooked meat may be regarded as a fair daily allowance to an adult in good health, and taking moderate exercise, but when there is much physical exertion, a larger quantity may be fairly made use of. The allowance in question is in accordance with ordinary English diet, into the daily composition of which butter, milk, cheese, and pudding enter, as well as vegetables and bread, and if they be deficient, more meat is required.

As a general rule, in cold climates the allowance of animal food should be above the average, for more muscular strength and generation of heat is required there than in temperate countries. In cold climates, also, more fatty matter should be consumed to afford fuel for the production of animal heat, and fermented and alcoholic liquids are also more or less available to cause its ready supply. In hot countries the allowance of animal food should be smaller and of lighter character than where the climate is temperate, and the quantity should be made good by vegetable matter, such as bread, rice, and the more wholesome vegetables. The liquid part of diet should on no account be too heavy and stimulating, such as porter, spirits, and strong heavy wines, which irritate the stomach and load the liver, already too liable to derangement; it should, however, be grateful and gently stimulating, so as to promote digestion and keep up the tone of the system which the high temperature tends to depress; tea, coffee, bitter beer, and a moderate supply of wine, generally diluted, are the most suitable beverages.

Cookery should consist in putting food in such a state as best fits it for digestive action, but too often it has quite the reverse effect, rendering that which is naturally wholesome and nutritious, indigestible and hurtful.

There can be no doubt that flesh is more wholesome and nutritious when the animal has arrived at maturity than before or afterwards. The flesh of an old animal is dry and hard, and this state of its texture makes it indigestible; that of a younger one is soft and flabby, imperfect in its chemical composition, there being an undue proportion of fat and gelatine in lieu of albumen and fibrin, which renders it less digestible and nutritious. Thus lamb and veal are far inferior to mutton and beef, though by way of variety it is not objectionable to resort to their use occasionally. Calves should, however, be killed young, like lamb, and not suffered to become half-grown bullocks, and the vile practice of repeatedly bleeding the unfortunate animals should certainly be altogether abolished; the abstraction of the blood in such a fashion not only makes the meat less nutritive, but it exerts an injurious influence on the texture of the flesh, making it positively unwholesome—so much so, indeed, that with many delicate stomachs it is apt to disagree violently. A certain amount of fat is always desirable to be eaten with the flesh of meat; but even if the amount taken do not exceed the amount required, it should not be taken in too concentrated a condition, as it does not agree with the stomach, but interferes with general digestion; and, indeed, the carbonaceous supply seems to be more advantageously afforded to the system when it exists in the food in more complicated combination, which appears to render the supply more gradual and equable. Too much fatty material in our food irritates the stomach and loads the liver. In reference to keeping meat, the sooner the flesh of young animals is cooked the better, before its gelatinous substance has time to harden, and before that peculiar process of decomposition commences to which veal is so especially liable.

Well-matured meat, on the other hand, is materially benefited by keeping in cool dry air, and that amount of decomposition which takes place in it, short of any putridity, does but render it more wholesome and digestible. Is meat more wholesome well-done or under-done, as it is called? is a question to which we may reply—young meat should be always well-done, whether roasted, boiled, or dressed in any other way; its texture being of moister and softer nature, it is not in the best state of preparation for digestive action until its fibre is set, and its gelatinous matter sufficiently acted upon by heat. But full-grown meat, whether broiled, roasted, or boiled, may be under-done, and yet be thoroughly cooked—that is, well prepared by the action of heat for the digestive process, and it is probably then more nutritious and digestible than what we should recognise as well-done, which happens thus: any of the above modes of cooking harden the outside of the meat in the first instance; by this means the juices thereof are retained in its substance, where a process of slow stewing goes on, sufficient to effect the cooking of the tissue of the flesh, which is essentially fibrinous, while the temperature is never sufficiently raised to deprive the juices of their ruddy colour. Thus we see that the meat which is gelatinous and fatty is not so easily cooked as that which is more fibrinous in its nature.

Broiling is the most simple and primeval way of cooking meat; exposing its surfaces alternately to the fire, either closely or at a short distance, so as to do it as quickly as possible without burning it, is all that is required. In this way the fat is drained from the interstices of the meat, which is kept moist and juicy in consequence of the outside becoming quickly hardened; thus it is rendered wholesome, and at the same time grateful to the stomach. Roasting is a very similar process to that of broiling, only it is performed on a larger scale, and therefore has to be effected more slowly; by duly protecting the surface and keeping it frequently moistened, it may be prevented from getting burnt or too much hardened, and from being too much done towards the outside in comparison with the inner part. Baking is somewhat similar to roasting, but not so wholesome or so palatable; the meat generally becomes sodden by the steaming atmosphere to which it is exposed, and the fatty matter is more retained, and apt to become somewhat rancid and empyreumatic from the confinement in a close oven. In frying meat the heat is quickly and closely brought in contact through the bottom of the pan; the meat is then, as it were, boiled in grease; by this method the nutriment of the meat is certainly all retained, and a large proportion of fatty matter is left in combination with it, which often offends the stomach, and is apt to rise again, especially when it has become burnt. This mode of cooking does not suit delicate stomachs. In cooking by boiling, according to the literal sense of the word, the heat of the water should be kept up to boiling point—viz., 212 degrees, but in practice this is not judicious; the water that the meat is put in should be at a temperature of 150 degrees, which must gradually be suffered to rise to boiling point, at which it should remain for a few minutes; and sufficiency of cold water should then be added to reduce the temperature to 180 or 190 degrees, where it should be retained by regulating the heat of the fire until the meat is sufficiently done. By these means the meat will be tender and thoroughly cooked, though it will take somewhat longer time; but if it be kept at a high temperature, the meat, from the firmer coagulation of the fibrin will be hard and tough, or the outside will be very much done, while the inside is very imperfectly so. Though inferior to roasting, boiling may be a wholesome mode of cooking if well managed; it is not, however, a very economical one; the nutritious and grateful juices of the meat are drawn out to a considerable extent, especially if it have been salted, and we must always remember that much of the substance of the meat is dissolved in the liquor, which, therefore, ought to be turned to good account. Stewing is a slow method of cooking, somewhat similar to boiling, but in which the heat should never be suffered to rise to boiling

point; in fact, the perfection of the process consists in keeping it much lower, at least twenty or thirty degrees. The process is effected in a small quantity of water, so that the portion of nutritious matter which is dissolved out, may be eaten at the same time as the meat. This mode of cooking is admirably adapted for old meat, or where there is much gelatinous matter; it will not fail to render it very tender and digestible, and at the same time preserve the flavour, if properly carried out. The liquor may be thickened by putting barley or rice with it from the commencement, and it may be flavoured in any way most agreeable to the palate. By suffering the stew, when nearly finished, to get cold, the fat, if desirable, may readily be removed, and the process then completed. Thus this mode of cooking may afford light and wholesome nutriment, very suitable for an invalid. The stewing process is much better effected in an earthen vessel than in a metal one, as the heat may be much better regulated, and prevented from rising suddenly. The preparation of broth and soup should be effected in the same way as stewing, continued for a considerable length of time. Meat which contains much gelatinous matter or tendon, is well adapted for making soup, and bones may be made use of for the same purpose, as they contain much gelatinous substance, but considerable heat is required for its extraction. The basis of soup, more especially than that of broth is, in fact, a solution of animal gelatine, with which the other principles of meat and other material are combined in different proportions. Either broth or soup may be freed from the presence of fat by the simple expedient suggested under the head of stewing. We may remark in conclusion, that our present English mode of cookery, by means of a large open fire, is undoubtedly most uncouth and extravagant, and sooner or later, we certainly cannot fail to resort to the use of stoves properly adapted for the purpose.

Poultry constitutes agreeable and palatable food. The flesh of ducks and geese is somewhat strong and oily, and requires a good digestive power to cope with it; no mode of cookery can altogether obviate their rich and fat nature, but roasting is best adapted for the purpose. Fowl and young turkey are thoroughly wholesome and suitable for weak stomachs; for invalids, boiling is the preferable mode of cooking them, but when roasted the white meat is unobjectionable. The only advantageous method of cooking old poultry is by stewing, which, if properly managed, will render even the most aged hen nutritious and digestible.

Game is exceedingly light and wholesome, but it requires keeping a sufficient length of time to soften the muscular fibre, which is otherwise hard and tough. It is very grateful to the stomach and suitable for invalids. The best method of cooking it is roasting, as it is thereby rendered most agreeable to the palate; boiling gives a strong unpleasant flavour, but if keeping it a sufficient length of time to render it tender be objectionable, it may be stewed, and if well done in that way, it will be both wholesome and palatable.

Fish, for the most part, constitutes light and unstimulating food, but it is very inferior to animal food as nutriment. With strong healthy stomachs it forms a good component article of diet, but with weak delicate stomachs only some kinds of food are available, and though this may seem to digest very well in the first instance, and not to be burdensome to the stomach, yet the residual and indigestible part often causes some irritation in passing through the bowels, which indeed is sometimes experienced by persons in good health after making a hearty meal of it. Fish must be eaten while fresh, for if kept too long it will have an almost poisonous influence. Whiting, haddock, cod, mackerel, flounder, sole, and turbot are, in the order that they are set down, the lightest and most digestible kinds of fish: they are all most delicate when boiled. Sauce is objectionable; the utmost that can be allowed is a little thin melted butter and chili vinegar. Fresh herring, salmon, and eels contain much oily matter,

but if eaten in moderation, are not more apt to disagree than other fish; vinegar is always a good accompaniment. Oysters, when eaten raw, are nutritious and easy of digestion, even by invalids, but all other shellfish is indigestible, and apt to occasion unpleasant effects, especially in some constitutions: diarrhoea, fainting, and eruptions, especially a kind of nettle-rash, may be occasioned by the use of shellfish, and even of shrimps and prawns.

Eggs constitute a most wholesome and perfect article of diet. They comprise all the material which is required for the general nourishment and for respiratory pabulum, and that in a readily available shape. As a form of invalid diet, which should be nutritive without causing much digestive exertion or excitement, they are very valuable, and from the sulphur which they contain, they have a considerable alterative action, which is not duly appreciated.

Milk is a most useful article of food, especially for children: in using cow's milk for infants we must remember that it requires dilution, as it is stronger than that of the human subject, which asses' milk is said to resemble most closely. Cows' milk is often exceedingly valuable as a main component of invalid diet, when the system is in a weakened and exhausted condition from acute illness or over-excitement occasioned by an injudicious mode of living. The newer the milk, the more wholesome; it should be taken cold, or at any rate only made warm, for boiling makes it somewhat indigestible, tending to cause its elements to separate. Butter is the oily constituent of milk, and the most wholesome and agreeable kind of fatty matter used in diet. It seems the natural addition to all dry farinaceous substances. Like all other kind of fatty matter, it irritates the stomach and excites the liver, if taken in excess, and especially if it have been subjected to a high temperature in cooking. If it be rancid, from being badly made or too long kept, it is exceedingly unwholesome. Cheese is the curd of the milk coagulated by rennet. It is nutritious and stimulating food, but inclines to be indigestible from its close, tough texture, which makes it difficult for the stomach to dissolve: this, however, may be obviated by thorough mastication, or it may even be scraped or grated. By its peculiar chemical nature, which is increased by keeping, cheese is certainly a provocative to digestive action.

Vegetable material constitutes the great bulk of our food: it is an essential part of diet, affording much nourishment, though more slowly than animal food, which it serves to dilute and modify as may be required, thereby preventing it from exerting too stimulating an influence. The variety which vegetable food presents to the stomach is most grateful, and its deprivation, even partially, is most disagreeably, if not severely, felt. Bread is the prime staple of all vegetable food, and comprises within itself all the material that is necessary for the maintenance of life: that which is made from the flour of wheat is the most nutritious and commonly used. The peculiar mechanical arrangement of bread into a soft spongy substance, by the aid of yeast, or any other material which will give rise to the disengagement of carbonic acid gas, constituting fermentative action, adapts it to more ready digestion. As a general rule, fermented bread is undoubtedly most wholesome, especially if less of the husk of the corn were taken away than is usually the case; but the usual bread-making process is by no means absolutely necessary, for a strong healthy stomach especially, to which ship biscuit or Australian damper will by no means come amiss. For many invalid stomachs the avoidance of the fermenting process is desirable; in dyspeptic states common bread will certainly often serve to excite irritation and gaseous formation, and is better partially or altogether avoided. The use of wheaten bread or flour is not advisable for very young children; the quantity of gluten contained in wheat renders them heavy and indigestible, and the fermenting process undergone by the bread renders it apt to disagree with the stomach: by baking the flour, toasting the

bread, or the substitution of biseuit powder, however, these objections are materially obviated. Barley, oatens, and rye bread are all nourishing food, but they do not suit the palate of those accustomed to wheaten bread. The admixture in moderate proportions of barley and oatens flour, which are lighter and more digestible, with wheaten flour, would, however, probably be attended with advantage in the manufacture of bread. All the kinds of grain mentioned may be made use of as food in other shapes besides bread. Oatens cakes are most wholesome and nutritious, but to a stomach that has been accustomed to wheaten bread, they are somewhat harsh and ungrateful. Oatmeal, boiled in water, flavoured with salt, or sweetened with sugar, and eaten with milk, is an excellent food, and well adapted as food for children. Its use in making gruel is familiar to every one, and it also forms an excellent combination with animal food in broths and stews; but barley, properly prepared, answers the purpose still better. Buckwheat, made into fermented bread, or simple cakes, baked on an iron plate, constitutes nourishing and by no means disagreeable food.

Rice is an exceedingly valuable article of diet, though certainly it is not nearly so nutritious and stimulating as the different kinds of grain which we have mentioned, as it consists almost entirely of starch. It is available in many shapes, and may be subjected to a variety of modes of cooking; plainly boiled it is certainly the best substitute for potatoes with which we are acquainted. Maize is very similar to rice. There are several other farinaceous substances which have a close analogy to rice—arrowroot, sago, tapioca, &c.

At the head of the vegetables, properly so called, stands the potato, which is at the same time wholesome and agreeable to every taste; it is certainly the best accompaniment to animal food. Parsnips, turnips, carrots, &c., form a class of vegetable food which possesses more bulk than nourishment. The various green vegetables have a low degree of nutrient power, but in moderate quantity have a cooling and wholesome influence, counteracting the heating and stimulating tendency of animal food. It is of consequence that vegetables should be fresh and well dressed, so as to render them as tender and digestible as possible; for, being somewhat insoluble, and of fibrous texture, they are very apt to pass unchanged into the bowels, and there cause much disturbance and irritation, especially if they have not undergone due mastication.

The use of ripe fruit in moderation is decidedly advantageous and desirable for healthy stomachs, tending much to counteract the irritable and excited state which the mucous membrane of the alimentary canal is apt to assume in hot weather, and also to cool and purify the blood.

We have now to speak briefly of the various supplementary articles of our diet, known as puddings, &c. Paste is better made with suet than any other kind of fat, and is more wholesome boiled than baked. When pudding made with wheat flour, and any kind of fatty matter, is used in common diet, it ought certainly to be considered as more or less of a substitute for animal food in the meal of which it forms a part. A light boiled paste, as made in some parts of England (especially Sussex and Norfolk), without any fatty material, is far from unwholesome, and fruit puddings made with the same are not objectionable. As an accompaniment to batter pudding or boiled rice, stewed fruit is exceedingly wholesome, and thus prepared can often be taken even where it disagrees in the raw state.

It is requisite to take a certain amount of liquid into the system; and where the solid food is good and sufficient, there can be no doubt that the simpler the liquid is the better, seeing that it is merely required for the purposes of dilution. Water, in fact, is our natural beverage; but, in our present state of civilization and artificial existence, much of our nourishment is taken in a fluid form, and, moreover, much liquid is taken merely to gratify the palate, and more or less also for the sake of its stimulating influence on the stomach and general system.

As water constitutes our natural beverage in a state of health, so when the body is in a state of disorder and disease, a medicinal influence may be exerted by the proportion in which it is taken being diminished or increased. A considerable quantity of diluent fluid cannot be constantly passing through the blood without producing a change therein, and consequently an influence on the general system, and I believe that this principle is not sufficiently taken into consideration in the treatment of disease at the present day.

We may divide the various liquids used as beverages into two classes: the first, which we may term diluents, will comprise all those fluids which have no marked stimulating power, though they may have a nutritive property: the second we may term stimulants, which are characterised by having gone through more or less fermentive action, and by having more or less alcohol in their composition.

Water will of course stand at the head of diluent beverages, and the others are, in fact, only modifications thereof. I am perfectly convinced that, as a general rule, water is the most advantageous accompaniment with our principal meal, best serving to promote and carry out digestive action. It is, however, often disliked and objected to, and a substitute must be found. Toast and water, when properly made, will often agree with weak stomachs better than plain water. Milk and water is usually most suitable for young children. Barley-water is a very wholesome beverage. In warm weather, weak lemonade is agreeable to the palate, and serves well to allay the sensation of thirst. The juices of various fruits may also be used with advantage to flavour water; weak beer and cyder may also be classed amongst diluent beverages, but I certainly deem them objectionable, especially for children.

We now come to diluents of more substantial character—cocoa, tea, and coffee. Cocoa, as usually made, with or without milk and sugar, is a wholesome and nutritious beverage, well adapted for the morning meal. Too much fatty matter is, however, generally used in the manufacture, in addition to that which it contains itself, and this makes it sit uneasily on some stomachs: if, however, it be prepared from the nuts themselves, or nibs, as they are usually called, there is not the same objection, and it is consequently much preferable. Chocolate is very similar to cocoa, but richer, sweeter, and flavoured with spice.

Tea is a most grateful and refreshing beverage, of too universal value and repute to require any commendation, or for detraction to lessen the general estimation which it has acquired. That it is subject to abuse there can be no doubt, for it may be injurious if drank too strong, or in too large a quantity. The quantity of tea taken at any meal should certainly not exceed half-a-pint, nor should it be taken more than twice a day. Black tea is the only kind which should be used, for the green is evidently quite a manufactured article, more or less spurious in all instances, and positively noxious in some. Tea is particularly adapted for those who lead a sedentary life, and is of the highest value to the invalid. I believe the mischief of excessive tea-drinking to rest principally in taking a quantity of tepid or hot fluid; this alone will occasion and aggravate dyspepsia: still, I do not believe strong tea to be harmless, but, on the contrary, entertain no doubt that its excessive use will prove materially injurious both to the stomach and nervous system, more especially if that which is green is taken. Thus we turn a blessing to a curse, which man is too apt to do, but that does not militate against its real value, in respect of which it has also had a moral influence on society at large, promoting both health and comfort. Were tea but of lower price, and fairer quality, which, while it is taxed as at present, cannot be, its increased use would greatly counteract the beer and spirit-drinking mischief which infests and degrades all classes.

Coffee is a wholesome beverage, somewhat of a stimulating character, but which differs from that of tea in its nature, and is at the same time less apt to

affect the nervous system injuriously. From being taken stronger, and with more milk and sugar than tea, it is rendered more nutritious, and in some measure is more advantageous to weak stomachs. A small quantity of strong coffee taken immediately after dinner is considered to promote digestion, and it may apparently do so by counteracting the heavy and lethargic condition which a full meal will often occasion. Coffee evidently excites the brain, preventing the tendency to sleep, but without leaving any of that depression which results from the indulgence in alcoholic liquors. Excess in the use of coffee is apt to give rise to dyspepsia and an irritable state of the nervous system. Coffee, when taken at the morning meal, does not suit some stomachs, causing a sense of fulness and uneasiness, when tea will be preferable. We must remember that if it be drunk largely, and of little strength, it will cause the same mischief that weak tea or any other warm diluent occasions—*i.e.*, weaken and injure the tone of the stomach.

Of stimulants.—Beer comes first on our list, and is so completely an English beverage that it requires our best consideration. There is certainly some true nutritious material in all strong beer, in the shape of saccharine matter; there is more or less alcohol, on which the strength of the beer depends, and there is also the bitter matter extracted from the hop, which is often very grateful to the stomach. Strong heavy beer is injurious; it certainly throws a quantity of peculiar material into the system, which, for a time, lends apparent force and energy to it; but the influence of this material on the digestive organs is most mischievous. It exhausts their power, enervates them, and renders them unfit to do their duty in properly nourishing the system, of which the general tone becomes consequently sapped and undermined. The peculiar combination of much saccharine matter with alcohol often renders strong ale very evidently noxious, for its latent fermentative tendency, by irritating the stomach and liver, will often produce the most violent headache, and some persons cannot drink the smallest quantity of such beer without its giving rise to that effect. I am certainly inclined to consider strong beer, if drunk constantly and largely, as a positive poison; and those who drink it occasionally will often run some risk, for if the liquor do accommodate itself to their stomachs, it will be merely a matter of sufferance. In strong porter or stout, the peculiar process which the malt has undergone prevents its having all the unpleasant effect of ale. The only cases in which the use of strong beer is admissible, are where there has been violent and continuous exertion, or much exposure to cold, and then it may have some beneficial influence. Medicinally, also, it may serve a useful purpose in states of great debility, accompanied with great excitement and irritability, when it will exert a powerful tonic influence. To render beer really wholesome, the bitter of the hops should predominate over the other principles, which should be in moderate proportion, and thus we shall have a beverage of very different character from that denominated strong beer. With a good constitution and strong digestion there is no need even for beer of this kind, and if it must be taken for the sake of the palate, then the weaker the better. But when the constitution is weak, and the digestion faulty, sound bitter beer is an excellent accompaniment to solid food, provided fermented liquors do really agree with the stomach, which is not so often the case as is usually supposed. Good porter is sometimes preferable. The attention which has of late years been given to the manufacture of beer of the description to which I have alluded, has certainly been a matter of much public benefit.

Cider and perry, taken in moderation, in the heat of summer, are certainly refreshing beverages. They have not usually any great amount of stimulating property, but there is a peculiar acidity inherent to their nature, which is apt to derange the stomach, and probably to deteriorate the blood when drunk habitually.

Good wine affords a very grateful stimulus when required, and, used within the strict limits of moderation, it is very efficacious in counteracting exhaustion and fatigue, either mental or bodily. It is especially adapted for use in some climates; in warm countries it is more or less requisite, and in making the change from a temperate climate to a warm one, as from England to Australia, its judicious employment is attended with the greatest advantage. It should generally be drunk diluted. The proportion of bad and spurious wine is, however, very large, and of this the use is most injurious, and should be carefully avoided. For invalids wine is often a most valuable medicament, especially in states of great debility, unattended with much irritation and excitement, and it will often exert most evident effect in promoting convalescence after severe acute diseases. The astringent tendency of port and some other wines is often available, to a great extent, in some peculiar states of system.

Distilled spirits now come under our notice. Every fermented liquid contains spirits of wine or alcohol, which may be separated from it by distillation, and from this is derived all the intoxicating power possessed by wine, beer, &c. This intoxicating power is most noxious and prejudicial, and cannot be suffered to exert itself long or often without considerable mischief. An agreeable and exhilarating influence is first occasioned by the action of alcohol on the economy, which, however, is of no long duration, and the mental and bodily elevation soon gives way to a proportionate state of depression and exhaustion. The stimulus may be again and again resorted to, but the desired effect will gradually diminish in its accomplishment, while the reaction of depression and exhaustion will surely and steadily increase. The deleterious effects produced by indulgence in spirituous liquors on the bodily organization are but too well known to medical experience. How can it be otherwise, from the hurtful and unnatural matter which is thus being constantly diffused through the mass of the blood? The mucous lining of the stomach is thrown into a state of irritation and inflammation, which interferes, in every respect, with natural nutrient action, so that the secretions become depraved, and the appetite vitiated and destroyed. The liver is loaded with carbonaceous material, which it cannot readily get rid of; hence the secretion of bile and other functions are materially interfered with, and the structure of this important organ soon assumes a morbid state, so that at length its very substance is changed from its original nature. The kidneys are kept in a state of constant excitement, from having to separate and pass off an undue quantity of fluid from the system. Thus their action is at length rendered faulty, and they are apt to become seriously diseased. The frequent state of stimulation and irritation into which the nervous system is thrown by habitual indulgence in spirituous liquors, gives rise to an unnatural condition, strongly tending to various diseases. That which is most characteristic is known as *delirium tremens*, or drunkard's madness, where there is a state of sleepless excitement; all perception is more or less perverted, the power of judgment is well-nigh annihilated, and there is that irregularity of muscular action and want of control over it, that approaches closely to a paralytic state. Such are the bodily mischiefs to which the spirit-drinker is liable, and which, with the diminished intellectual power, and the impairment of the moral feelings, cannot fail to render a man the wreck and ruin of his former self. The process of the drunkard's self-destruction may take some time, but it will not fail of ultimate accomplishment. A large proportion of cases of insanity are undoubtedly owing to intemperance, and it is but too well known to fill our jails with crime. In the first stage of intoxication there is a temporary increase of bodily and mental energy, which imparts a feeling of enjoyment, but is too apt to develop itself in violence or the display of some evil passion; as that state passes away, and intoxication progresses, the perceptions become more and more blunted, the

moral feelings perverted, the ideas incoherent, and there is no longer any capability of exercising volition; to this succeeds a state of lifeless stupor. Every fit of intoxication is, in fact, a temporary attack of insanity. How pitiable and lamentable does it appear that man should voluntarily forego the privileges of his existence, and thus reduce himself below the level of the brute beast; that such should be the ease appears well-nigh incredible. A drunkard is a foe to society, but the worst of enemies to himself. These remarks are especially connected with the abuse of ardent spirits, as they produce the most marked and speedy effect, but with some modification they will apply alike to the abuse of stimulants of all kinds.

There is a certain amount of indulgence in ardent spirits, and other stimulating drinks, which is injurious, though it stops short of intoxication. It may originate in the force of habit, which has accustomed the individual to look regularly for a certain amount of extra stimulus, which, perhaps, is taken without producing any apparent effect, though if omitted it would be missed. Again: though it cause no violent excitement, it may give rise to a sense of enjoyment and gratification, or carried a little farther, it may produce a certain degree of exhilaration, which gives dull reality a gloss and seeming which it does not naturally possess, increasing the rapidity and promptitude of thought, and the fluency of speech, but not rendering them more accurate or to the purpose. Or, again, it may render a person dull and heavy, blunting his perception, clouding his understanding, and rendering him listless and incapable of exertion and application. These effects may vary according to constitution, habit, state of health, and nature of the stimulant. No immediate inconvenience may be experienced beyond occasionally a feverish state of stomach, a bilious attack, some irregularity of the bowels, headache, &c.; but still the habitual indulgence cannot go on, even to this moderate extent, without affecting the system sooner or later, and laying the foundation of serious mischief. A state of undue irritability is set up, which may be readily converted into disease, and from the constant artificial state of excitement and elevation of the vital energy, more or less exhaustion must ensue, so that there will be less constitutional strength in reserve to resist and counteract any attack of acute malady, or to promote recovery from the effects of any severe accident. It also stands to reason that if there be more than ordinary exhaustion of the powers of life, the duration thereof will tend to be shortened, and a liability to premature old age will be constituted. There are many diseases to which even moderate indulgence in the use of stimulants disposes: neuralgia, dyspepsia, affections of the liver and kidneys, for example; and there can be no doubt that any irritation of the mucous membranes lining the various cavities of the body may be kept up by the use of stimulants, and will speedily subside when they are given up, while, at the same time, there will be marked improvement of health and strength.

The use of ardent spirits may, under some circumstances, be admissible, and even desirable, especially in cold climates. In a state of considerable dilution, they may supply the place of wine, where its use is indicated; thus they may counteract exhaustion, arising from any depressive influence; they may sustain muscular exertion, and they may excite the stomach to healthy action where it is in a state of torpor and inactivity. In morbid states the use of ardent spirits, sometimes even in a somewhat concentrated state, is often of essential service; they may afford prompt and efficient aid in relieving spasmodic conditions, nervous pain, and vascular congestion, which depend on debility and want of tone, and which milder and more natural medicaments have not the power of remedying.

Any medicine that is mentioned can be referred to as arranged in the alphabetical list, and under its heading will be found the preparation especially alluded to. A number refers to some particular form among the prescriptions which are placed after the description of drugs and chemicals.

AGUE, OR INTERMITTENT FEVER.

AGUE is a disease consisting of febrile paroxysms, which occur at certain intervals. Each paroxysm or ague fit has three stages, the cold, the hot, and the sweating, which pass into one another in regular succession. The cold stage is characterized by a sense of debility and restlessness; the circulation becomes weak, the surface pale and chilly, and at length violent shivering comes on, continuing for the space of an hour or two. The skin then becomes hot and dry, there is much thirst, the face is flushed, the pulse is full, strong, and frequent, there is pain in the head, and sometimes delirium when the attack is severe: this is the hot stage. In two or three hours this is converted into the sweating stage, when a profuse perspiration breaks out over the entire surface, and the state of excitement gradually subsiding, the body resumes its natural condition. The whole paroxysm usually occupies from four to eight hours. When the ague paroxysm returns every day, it is called a quotidian; when every other day, a tertian, which is the most common form; and when on the first and fourth day, a quartan. Ague occurs most commonly in the spring and in the autumn; those in the latter are usually most obstinate and dangerous. A weak and exhausted state of constitution predisposes to ague, of which the immediate cause is a poisoned condition of the blood, exerting a peculiar influence on the nervous system. The poisoning of the blood may usually be traced to what is termed malaria, miasma, or exhalation from marshy ground or stagnant water. To avoid the infection of ague where it is prevalent, or endemic, as it is termed, it is desirable to avoid sudden changes of temperature, and exposure to the night and morning air, and to protect the surface of the body with flannel. When ague has once existed it is always liable to recur; an east wind is a common exciting cause.

The treatment consists in the first place in hastening the development and completion of the paroxysm. In the cold state the patient should be placed in a warm bed, warm diluents must be given, and if the attack be very severe, stimulants should be administered; hot wine, or spirit and water, or a draught containing ten grains of carbonate of ammonia, five or ten drops of laudanum, and a couple of tablespoonfuls of camphor mixture. Some medical men recommend a large dose of laudanum, from fifty to sixty drops, at the commencement of the cold stage. During the hot stage some simple saline may be taken, such as F. 101 or 102, or what is equally efficacious, small draughts of cold water may be drunk at short intervals, and the surface also sponged over with cold water. Violent delirium, or intense pain in the head, may render the local or general abstraction of blood necessary, but very rarely. The sweating stage requires no medicine, but it must not be rapidly checked. The main treatment must take place during the intermission. In the first place, a gentle emetic of ipecacuanha may be desirable if the stomach seem loaded and foul; and as the liver is usually congested or inactive, and the secretions of the alimentary canal depraved, two or three grains of calomel, or five grains of blue pill overnight, and an aperient, such as F. 68 or 69, in the morning. The digestive organs being thus disciplined, no time should be lost in the administration of bark or quinine; from twenty to thirty grains of powdered bark may be given

every second hour, or, what is very far preferable, one or two grains of sulphate of quinine in the form of pill, or merely in a little water, being previously dissolved with two or three drops of dilute sulphuric acid, or as in F. 162 or 163. This must be stopped when the ague paroxysm recurs, and resumed subsequently as often as requisite, taking care to keep the bowels open. Arsenic is also an excellent remedy for ague, and the solution may be given in two or four-drop doses every four or six hours during the absence of the paroxysm. The administration of this remedy requires much care, and must not be persisted in if it cause any irritation of the stomach, indicated by local pain, sickness, or diarrhoea. The diet in the intervals must be regulated according to circumstances; it should generally be light, but generous, and, if there be much debility, port wine may be taken. If there be any inflammatory state, the treatment must be lowering, and the diet spare, at any rate in the first instance.

AMAUROSIS

Is loss of sight from paralysis of the optic nerve: the failure of vision is usually gradual, but may occur quite suddenly, and one or both eyes may be attacked. One of the commonest symptoms is the appearance of gnats, films, or specks flying before the eyes; the pupil of the eye is dark, always somewhat dilated and fixed; and there is no appearance of any foreign body, as in cataract. The causes are liable to much obscurity, but we may enumerate among them, age, a plethoric condition of the bloodvessels of the brain, any sudden mental or bodily shock, over-exertion of the power of vision, and derangement of the digestive organs. The treatment must vary according to the cause. If there be fulness about the head, blood should be removed from the temple or nape of the neck by cupping or leeches, and a little calomel or blue pill should be given at night, and an aperient, as F. 44 or 68, in the morning. If there continue much deep-seated pain, an alterative, such as the compound calomel pill, should be administered each night. Where there is failure of nervous power, blistering down the spine may be useful. Where there is general constitutional debility we may give tonic medicine such as F. 128, 156, 158, 161, 162, taking care to keep the bowels open with some simple aperient, the compound colocynth pill for example (see Aloes). Digestive derangement may require an alterative occasionally at bedtime, merely a little blue pill or F. 1 or 37, or the compound calomel pill, and some tonic stomachic, such as F. 149 or 150. Emetics will sometimes do good where the liver is congested.

ANGINA PECTORIS, OR BREAST PANG,

Is indicated by severe pain and sense of constriction in the region of the heart, which extends over the chest, down the arms, and into the throat, and is accompanied with a feeling of suffocation. It occurs in paroxysms, coming on suddenly. The pulse is generally slow and irregular, sometimes not much disturbed, but always weak. Angina pectoris may be connected with organic heart disease, or it may merely be a matter of functional derangement. Over-exertion, indigestion, or mental distress, may bring on this complaint. It consists essentially of spasm of the muscular structure of the heart, and is dependent in a great measure on nervous debility. The treatment during the paroxysm should consist of rest in the recumbent position, and the administration of stimulants, brandy, æther, ammonia. During the intervals between the attacks the general symptoms should be attended to.

APOPLEXY.

In this disease there is a sudden suspension of all sensibility and power of motion; the face is flushed and swollen; the respiration is slow and laborious, accompanied by a peculiar snoring sound; the eyes are suffused, and the pupils are generally dilated and insensible to light, and the pulse is strong, full, and slow. The attack may last for a few or many hours, and the seizure will come on quite unexpectedly, or may be preceded by premonitory symptoms, such as violent headache, giddiness, deficiency of sight or hearing, loss of memory, drowsiness, local numbness, want of muscular power, nausea, &c. Those with short necks and full habits are most liable to apoplexy, especially if large feeders, and indulging much in the use of spirituous and fermented liquors. What we have said refers to acute vascular apoplexy, in which there is effused blood from a ruptured bloodvessel, or there may be merely excessive vascular congestion, and thus pressure on the brain is occasioned. There is, however, another form of apoplexy, which may be termed passive, where there is like insensibility, but with a weak pulse and a pallid, sunken countenance. In such cases the seizure may have been as already described, but of such violence as at once to oppress and overpower the nervous vitality; or it may be of passive character, occurring in weak and relaxed constitutions, tending to the effusion of watery fluid rather than of blood. As soon as sensibility and consciousness return to any extent, some local paralysis will almost certainly be found to exist, and it may be apparent in the face even from the commencement of the attack. Whatever tends to determine a great quantity of blood to the head, or impedes the free return of it, may be considered as exciting causes of apoplexy; such are violent passion, immoderate exercise, intense study, intoxication, excessive straining, suppressed evacuations, exposure to extremes of temperature, and undue compression of the neck or any part of the body. Apoplexy is of most common occurrence in the middle or decline of life.

Treatment.—In cases of acute vascular apoplexy, blood must be drawn to such an extent as to relieve the symptoms, provided the constitutional strength, as indicated by pulse, &c., will bear it; the local abstraction of blood may also be resorted to. A full dose of calomel, ten or twenty grains, should be administered, and the bowels unloaded with a purgative injection of Epsom salts, infusion of senna, or castor oil. The head should be moderately raised, shaved, and kept cool. The treatment must be persisted in as long as requisite, and the abstraction of blood repeated if necessary. In passive apoplexy abstraction of blood must be resorted to sparingly and with great caution, and on no account should it be persisted in unless speedy benefit result. Local bleeding by cupping and leeches may be preferable; enemata may be resorted to, and warm purgatives of decoction of aloes, &c., be given, as soon as the patient is able to swallow. Moderate doses of calomel, three to five grains, may be administered if necessary. Counter-irritation should be applied by sinapisms to the nape of the neck and between the shoulders, which may subsequently be followed by blisters.

On recovery from an apoplectic attack, attention to diet and regimen is of the greatest importance. The diet should be light, and not too rich in nutriment: alcoholic liquors should be carefully avoided; the utmost extent to which they are admissible is a little sherry and water, or mild home-brewed beer, with the dinner; regular exercise in the open air is desirable; and too much indulgence in sleep must be avoided. The pills F. 29, 30, 35, or 36 may be resorted to occasionally, according to circumstances. On recovery from the second form of apoplectic seizure, tonic treatment and more generous diet will probably be required.

ASTHMA.

This disease is characterized by difficulty of breathing and a sense of oppression and constriction about the chest. There is generally a wheezing sound and much suffocative cough. The disease usually comes on in paroxysms, under some peculiar atmospheric influence, when there is exposure to cold and moisture or a sudden change of temperature: mental excitement or any undue bodily exertion may also bring on a paroxysm. There are three peculiar morbid states essentially connected with asthma: undue secretion of mucus, a spasmodic condition of the minute bronchial tubes, and a dilated or ruptured state of the air cells: these enter more or less into combination. Before an attack, there is usually some preliminary indisposition, such as cold, or a deranged digestion. However intense the paroxysm, it rarely proves fatal.

Treatment.—When the paroxysm is on, the treatment should consist in promoting the warmth of the surface and the action of the skin. For this purpose the patient should be brought near a large fire, or, what is still better, a hot-air bath may be resorted to. Dry cupping is serviceable to the chest. A large mustard poultice may be applied to the chest or spine. In pure spasmodic asthma, a draught of twenty drops of solution of acetate of morphine, with a drachm of compound spirit of sulphuric æther, may be administered in a little camphor mixture. If the asthma occur in a person of pretty strong constitution, a teaspoonful of antimonial wine may be given every ten minutes until it occasion considerable nausea, or even slight sickness. Where the phlegm appears to have accumulated largely on the chest, a decided emetic may be administered, F. 87. The inhalation of the steam of hot water will sometimes afford relief, and the smoking of stramonium has been strongly recommended. Strong unsweetened coffee is considered a good preventive; F. 93 or 94 may be advisable when asthma threatens.

During the interval of the fits, much may be done for the patient by proper management. Some digestive derangement is usually apparent, which must be carefully remedied by appropriate treatment. The regular action of the bowels must be maintained by gentle aperients, which may be of alterative character, F. 29, 32, 34, 36, 38, or 43; but, above all things, we must remember that this is a disease of debility, and that our chief reliance must be on improving the general tone of the system; and this is not to be effected so much by medicinal administration as by careful regimen. The skin should be protected with flannel, and its action maintained by cold sponging and friction. Regular and gentle exercise should never be omitted. Exposure to cold, damp, and especially east wind, should be carefully avoided. The diet should be light and nutritious; much stimulating liquor is highly prejudicial, especially strong beer. A close confined locality is very objectionable for residence, also a leak and exposed situation, or a damp clay soil: the change from such to a mild but dry locality is often productive of the greatest advantage. Galvanism is sometimes very useful in asthmatic cases in restoring the tone of the nervous system. F. 47, 146, 149, 150, are good stomachic tonics, if such are required. F. 94, 109, or 117, will serve to relieve the cough if troublesome.

BILIOUS COMPLAINTS.

This general denomination includes many different disorders. It is, however, an exceedingly vague and uncertain term, and is improperly applied to a great many complaints in which the affection of the liver is but secondary. With some persons, indeed, it is even customary to consider every vague and uncertain indisposition as a bilious attack. This is a great mistake, and if, in

addition, mercury is always considered the remedy, the consequences, especially with children, are often fraught with incalculable mischief. It will be evident, from what has been said respecting the liver in a healthy state, and when it is duly performing its functions, that its derangements may not merely consist in its secretive action being interfered with; for when the secretion of the bile is increased, impeded, or modified in any way, there may at the same time be a deeper mischief connected with that blood change which is undoubtedly effected by the agency of the liver. The hepatic blood change, moreover, may be deranged without the biliary secretion being interfered with, and such probably is the origin of many chronic diseases. To classify bilious complaints with precision cannot very readily be effected, but by attempting some arrangement we gain greater insight into them, and can more readily appreciate their importance.

Increased biliary secretion is of common occurrence. Too rich and abundant diet will occasion this, especially if there be deficient exercise. It is apt to occur in hot weather, especially when there is a great drain of aqueous fluid by perspiration, rendering the bile more rich and stimulating. This state of the biliary secretion will cause the system to be feverish and excited, and the tongue furred; it usually gives rise to diarrhœa, and, from the bile regurgitating into the stomach, bilious vomiting frequently occurs. Where there is no sickness, a few grains of blue pill, followed in an hour or two with the rhubarb draught, F. 44, or from half to one ounce of castor oil, will usually afford relief. If there be much pain, ten drops of laudanum may be added to the draught of castor oil, and even a mustard poultice may be applied to the stomach. The diet should be light and unirritating. Where there is both vomiting and purging, the saline mixture, F. 101, or the effervescing one, F. 102, may be given. If, after two or three doses, the purging is not abated, the compound chalk mixture, F. 114, may be tried, and if this do not suffice, calomel and opium may be taken, two grains of the former and one of the latter, every two or four hours, according to the severity of the attack. This state may pass into bilious fever. Deficient biliary secretion is also of common occurrence; it is shown by the pale colour of the fæces, and generally a tendency to constipation. It is most apt to occur in cold weather, especially combined with damp, and originates in the liver becoming congested and inert. When it happens in its simple form, it seems that the other functions of the liver—viz., the blood change, at first goes on the more actively, the energy of the liver being diverted thereto; and thus, up to within an hour or two of the attack, the patient will say he never felt better in his life; but after retiring to rest, or on rising in the morning, or even suddenly during the day, he finds himself ill all at once. There may be feverish excitement, headache, loss of appetite, languor, pain in the limbs, furred tongue, and nausea, more or less, according to the intensity of the attack. A free mercurial dose should be administered in the first instance—five grains of blue pill, or from two to five grains of calomel. Two hours subsequently a free aperient should be given, F. 44, 68, or 70, according to circumstances, and this should be repeated after four or six hours, if requisite. A saline mixture may then be given at intervals, such as F. 101, 102, or 104. If the liver do not appear to act, the mercurial dose should be given again, after twelve or twenty-four hours, and this may be followed with a sufficient aperient; an interval of some hours should intervene. Thus the pill may be taken at night, and the draught in the morning. If the attack be very severe, the diet should be very spare, and diluent in its nature.

Vitiated biliary secretion is of common occurrence; it is most prevalent in hot weather, when fruits and vegetables are indulged in injudiciously and to excess; a rich fat diet may occasion it at any time, and more especially too copious libations of wine, beer, or alcoholic liquors. The treatment should be somewhat similar to that of those cases where the biliary secretion is simply

increased. If, however, the attack be slight, a warm carminative draught, such as F. 45 and 151, will often arrest the mischief. A dose of blue pill may be desirable, and if, after a due clearance of morbid secretion, the purging persists, from the continuance of an undue secretion of bile, or from the irritable state of the bowels, it should then be treated accordingly. Light diet is desirable where bilious complaints are of habitual occurrence, and, if requisite, all stimulating liquors should be avoided.

If the secretive and blood-changing functions be rapidly arrested by any congestive state, as in some forms of jaundice, excessive depression of the system is the result, but if the morbid influence be not intense, but gradual, the most extensive and serious mischief may take place in the course of time without any alarming symptom in the first instance. On the one hand, the digestion of the food will, of course, become imperfect, from lack of bile, and it is therefore impossible that the body can be duly nourished. On the other hand, the old blood globules are not duly decomposed, but continue in the circulation, unfit to perform their function, and constituting a source of hindrance and irritation; the fibrine is no longer acted on, but accumulates in the blood, to afford material for acute or chronic inflammation; finally, the fat and other carbonaceous matter cannot undergo their proper modification, so as to render them appropriate pabulum for pulmonary action, and consequently the respiration is rendered embarrassed, and the chemico-vital change which goes on in the lungs, not being able to maintain itself, is more or less supplanted by unhealthy action. Such is an outline of the direct and simple results of general hepatico-bilious inaction and other forms of derangement, which must be liable to occasion a varied and complicated morbid influence. I firmly believe that full half the maladies which flesh is heir to are, more or less, in connexion with hepatico-bilious disturbance, and, out of the lengthy catalogue, mere headache, violent congestion of the brain, perversion or failure of the organs of sense, neuralgia of various kinds, mere catarrhal attacks, acute or chronic disease of the lungs, numerous skin diseases, diabetes, constipation, hæmorrhoids, fever, inflammation of various kinds, constitute examples. It is not because I consider the influence of hepatico-bilious derangement so extensive that I am any advocate for the large or indiscriminate use of mercury; though a most valuable remedy, I consider it may be a most dangerous one, and that it should never be resorted to without there being good reason for its administration.

BLADDER, CHRONIC DISEASES OF THE.

These assume many different forms, to the commonest of which we shall here advert, and point out the means of promptly alleviating them. In cases of what is termed irritable bladder, there is usually some amount of inflammation. It is indicated by frequent attempts and intense desire to void the urine, and by pain and tenderness in the region of the bladder. Too long retention of urine is a common cause of this complaint, which may also originate in a chill. Our treatment must be directed to allay the irritation and general inflammatory state as quickly as possible, and at the same time endeavouring to keep the organ in a state of ease. For this purpose, warm mucilaginous liquids should be freely taken, so as to render the urine as little irritating as possible, by diluting it. The use of a warm hip-bath for a quarter of an hour is desirable. Hot fomentations or bran poultices should be applied over the region of the bladder. The bowels should be freely relieved with castor oil, half an ounce to one ounce, and if the digestive organs appear much deranged, it should be preceded one hour by a moderate dose of blue pill. The alkaline mixture, F. 8, should then be given at intervals of four hours, and if that do not afford relief, ten drops or more of the solution of acetate of morphia should be added to

each dose. With low diet, warmth, and retaining the recumbent position, the above treatment will usually suffice to subdue even a severe attack of irritation of the bladder. If the symptoms be highly inflammatory, general or local abstraction of blood may be required. Irritable bladder may degenerate into the chronic state. If the urine continue acid, as is always the case in the common acute attack, the solution of potash may be taken in doses of twenty drops three times a-day, with five drops of laudanum, if requisite; or the solution of potash may be taken in infusion of whortleberry leaves or buchu leaves, with an opiate at night, if required, such as five grains of Dover's powder, and five grains of extract henbane, made into a pill. The irritable state may be confined to the neck of the bladder, which is indicated by the pain being chiefly experienced after making water.

MUCOUS OR PURULENT DISCHARGE FROM THE BLADDER.—This symptom may be attendant on the complaint we have just been speaking of, or it may exist by itself, depending on chronic inflammation or ulceration of the mucous membrane. That the discharge comes from the bladder is known by its flowing *after* the water has been passed. It may exist without much pain or inconvenience, and in old people often depends on disease of the prostate, a large mucous gland situated at the neck of the bladder. If the urine be acid, the treatment may be similar to that of irritable bladder; but if alkaline, mineral acid should be given, F. 6, in combination with the infusion of whortleberry or buchu. In either case copaiba may be tried under the form of F. 130 or 132, the bowels being regulated with some mild aperient, such as F. 38.

BRONCHOCELE, GOITRE, OR DERBYSHIRE NECK,

Consists in a glandular swelling in front of the neck, occurring generally in females. It is soft, and often irregular in shape, and disfigures a person excessively, and may even become dangerous by impeding respiration or deglutition. It appears to depend on a peculiar state of constitution, and bad water certainly seems a great exciting cause of it, as it occurs most especially where the water is contaminated to a great extent with carbonate of lime. Iodine, and the preparations thereof, constitute an almost certain remedy for the disease, and no better means can be resorted to than the use of the compound tincture of iodine, in doses of from five to ten drops three times a day in a little water. F. 7 is a milder medicine, and the compound iodine ointment, or F. 142, should also be applied.

BROW AGUE OR ACHE.

This is a form of neuralgia, affecting the nerves of the forehead. It partakes of the nature of ague by its intermitting character, ceasing or abating awhile, and recurring periodically at some particular time of the day, or every other day. It often affects those who have suffered with ague, and may sometimes be traced to the same cause, malaria. The pain is not always very acute, but often of a peculiar numbing and overpowering character. For treatment, *see* NEURALGIA.

CANCER.

This is a disease connected with a peculiar vitiated state of constitution. It appears in the first instance as a hard indolent tumour, but as it grows it becomes tender and attended with sharp lancinating pain. When increased in size to a certain extent it ulcerates and forms a sore, from which an offensive watery discharge takes place: the neighbourhood of the ulcer is indurated,

and it becomes more and more ragged and unhealthy, seeming to eat its way into the adjoining structures. The disease gradually goes on, until at length the patient sinks exhausted with pain, the drain from the system, and the general constitutional irritation. The female breast, the lip, and the tongue are the common external seats of cancer; internally the womb and the stomach are especially liable to it, when the disease is more obscure, and its progress more uncertain and irregular.

The treatment of cancer consists in the improvement of the general health; the bowels should be regulated with pills, such as F. 31, 36, or 38, or the compound decoction of aloes; the tone of the stomach may be promoted by medicine, such as F. 146 or 149. To counteract the progress of the disease, extract of hemlock is chiefly, I think, to be relied upon: it may be taken in doses of five to ten grains twice or three times a day. Iodide of potash, if steadily persevered in, is sometimes very serviceable, especially before the tumour has ulcerated, see F. 7; and the ointment F. 142 may be applied. After the tumour has ulcerated, a lotion of one drachm of iodide of potash, dissolved in a half-pint of water, may be used. In the latter stages of cancer, when the local pain and the general constitutional suffering have become great, the free use of opiates is requisite. The solution of the acetate of morphine may then be given internally in doses of from twenty to forty drops, or F. 15, and a lotion composed of one drachm of extract of opium, dissolved in six ounces of water, may be used externally.

CARBUNCLES

Are inflamed tumours, broad and flat in shape, and attended with much pain. The inflammation tends to the death of a portion of the cellular tissue, and the formation of much matter. They depend on a depraved state of blood, which may originate in mere constitutional debility, but more often they arise in constitutions which are not strong from the over-stimulation of rich and luxurious diet. The treatment consists in attending to the state of the stomach and bowels: four or five grains of blue pill may be taken at bedtime, and F. 44 or 45, or one and half ounce of decoction of aloes, in the morning. This may be repeated once or more if necessary. Subsequently, if there be much weakness of stomach, F. 146, 149, or 150 may be taken; and if there be much general debility, F. 159, 161, or 163 may be resorted to. An opiate, such as ten grains of Dover's powder, may be desirable at bedtime when the pain is great. The local treatment should consist in pencilling over the tumour and surrounding margin once or twice a day with the strong caustic solution, F. 137. When it becomes more painful, and matter inclines to form, hot poultices of bread or linseed meal should be kept assiduously applied. A free incision with the lancet, when the matter is fully formed, is very desirable, and much expedites the cure, by getting rid of the dead cellular tissue. The poulticing may be subsequently continued until the inflammation abates, and the daily application of the caustic solution will hasten the cure. F. 62 will be found a good healing application.

CATALEPSY

Is a peculiar nervous disease, arising in excitable temperaments. There is suspension of sensibility, which may be complete or partial. There is no power of voluntary motion, but the muscles will remain in whatever state they may be placed, and thus any position of the body will be maintained independent of the person's will, by the passive muscular contraction. The pulse and breathing continue natural. This disease usually depends on debility, and metallic tonics, chiefly the preparations of iron, are our best remedies.

CATARRH, OR COLD,

Depends on the depressing influence of a cold or damp state of the atmosphere, and probably on some electric impression in connexion therewith. The action of the skin is arrested, perspiration and the insensible cutaneous exhalation no longer take place. The blood circulates more slowly through the skin, and the natural generation of animal heat does not go on. If the chill be severe the muscular structures may be affected, and the irregular intermitting contractions take place for some length of time, constituting a rigor or shivering fit. The external impression is then transmitted, most commonly to the lining membrane of the nose, throat, or chest, occasioning irritation and congestion. Thus we have a sense of fulness and soreness in those parts, undue secretion of mucus, and these give rise to sneezing, pain in swallowing, hoarseness, and coughing. When the lining membrane of the chest is affected, a catarrh may amount to slight inflammation of the lungs. The external cutaneous impression may be transmitted to the muscular system in general, or some part in particular, giving rise to aching pain and a sensation of stiffness, which we hear complained of so commonly. A cold may occasion some feverish excitement.

Treatment.—A common cold tends to subside of its own accord, or it may at any rate generally be obviated by warmth and the administration of some hot stimulant diluents, such as whey, &c., which will excite the system to resume its natural course of action. A hot-water bath, or a vapour bath, or even putting the feet in hot water, will promote perspiration, and often arrest the approach of a severe cold. In reference to colds one thing has especially to be borne in mind, that the greatest predisposing cause is a disordered state of the stomach and liver, and in nine-tenths of the complaints designated as colds, I have no hesitation in asserting that deranged digestion has more to do with the attack than even the atmospheric exposure. Thus, on the access of a severe cold, in addition to the means which I have already mentioned, a mild aperient and alterative at bed-time, such as F. 36, is the best remedy, and this should be followed in the morning by a further aperient if requisite. Spare diet should be observed for the day, that is, it should be reduced in quantity both as to fluids and solids, and not that it should consist of a large proportion of slops and fluid nourishment. If a cold be of severe character, and attended with much feverish excitement, low diet, remaining in bed, and the use of the medicine F. 78 or 111 may be desirable. (*See COLD IN THE HEAD, INFLUENZA.*)

CHICKEN-POX.

After slight symptoms of fever, lassitude, restlessness, wandering pains, loss of appetite, &c., an eruption of small reddish pimples appears. On the second day the pimples become surmounted by small vesicles or semi-globular bladders, containing a thin watery fluid: on the third or fourth day the vesicles become full, and the disease is at its height: subsequently the fluid escapes, and a thin scab is formed over the top of the poek. Within a week the eruption generally has completely disappeared. The complaint is often so slight as to require no medical aid, and when more severe the treatment should consist in low diet, the medicine F. 76 may be made use of, and the bowels kept gently open with F. 42, 46, or 68, especially at the termination of the disease. The complaint is decidedly infectious, and is most apt to occur in childhood.

It is important to distinguish between chicken-pox and small-pox, which, when the latter is much modified, is sometimes a matter of difficulty. The progress of chicken-pox is much more rapid than that of small-pox; the fluid of the former disease always continues thin and serous, though somewhat yellow, whereas in the latter it becomes purulent. The pimples of chicken-pox are

more superficial and less dense than those of small-pox, and the vesicles of the former are always semi-globular, whereas the pustules of the latter are somewhat flattened, and always present more or less dent or depression on their summits. Glass-pock is merely another name for a very mild form of chicken-pock, there being no fever or constitutional derangement.

CHOLERA MORBUS.

The first common form of this disease depends on an excessive secretion of vitiated bile, which gives rise to violent bilious vomiting and purging, often attended with considerable griping pain and cramp in the limbs, without much fever.

Treatment.—The draught F. 151 alone will sometimes allay the irritation and pain occasioned by undue biliary secretion, when the attack is slight. If the attack be more severe, and the sickness is not urgent, four or five grains of blue pill, or two or three grains of calomel, followed as soon as the stomach will bear it by the medicine F. 41, 44, 45, will generally give relief. When the purging is very urgent, the mercurial dose may be followed in an hour by the castor oil draught, F. 41, with from ten to twenty drops of laudanum. If the diarrhœa still continue, the draught F. 152 may be administered, and if that do not suffice, the mixture F. 114 may be taken each time the bowels act, until they are sufficiently restrained. If there be much pain, hot fomentations, or a mustard cataplasm, will be very beneficial. The nature of the above line of treatment will show that it is necessary to neutralize and carry off the acrid secretions before endeavouring to counteract the irritable state of the stomach, bowels, and liver.

MALIGNANT CHOLERA is a very different disease. It may commence with common diarrhœa, or the above-mentioned bilious cholera, or it may come on without any preliminary symptoms. Malignant cholera essentially consists in an intense congestive state, especially affecting the liver. Excessive irritation of the lining membrane of the stomach and intestines sets up, giving rise to violent vomiting and purging of serous fluid, with intense griping pain; the spasmodic state then extends to the lower extremities, occasioning the most agonizing cramps. The pulse gets gradually weaker; the urine and perspiration are suppressed; the respiration is hurried and irregular; the skin becomes cold and livid, and death speedily ensues. In the most intense cases of malignant cholera the vomiting and purging may even be altogether absent.

The treatment should be more or less of mild stimulating character from the first: warm diluents should be given, but little or no alcoholic liquid. Heat should be applied to the surface of the body by hot vapour baths or other means. Local stimulation should be effected by the aid of sinapisms, fomentations, or embrocations, such as F. 135. A combination of calomel, opium, and camphor, in the proportion of three grains of the former and one of each of the latter, may be given every two hours in the first instance. When the congestive stage of the disease has set in, opium should no longer be administered, but calomel, in five-grain doses, should be given every hour or two, combined with two grains of camphor. The liniment of mercury should be freely applied over the abdomen. The saline F. 101 or 102 should be taken *ad libitum* throughout, and toast and water also, or any other diluent preferred, even cold weak brandy and water. When cholera is epidemic, it may be arrested or prevented by the early abstraction of blood; but when once the congestive state is thoroughly established, bleeding is worse than useless. Such is the outline of treatment which experience and careful consideration induces me to believe would prove most successful. The most complicated and varied plans of treatment have been

suggested and carried out, and with an equal want of success, and we need much more experience before we shall learn to treat this dreadful disease on simple and accurate principles.

The causes of cholera, whether bilious or malignant, are undoubtedly connected with epidemic influence; but injudicious diet, over-fatigue, exposure to change of temperature, are certainly powerful exciting causes. To avoid the disease we must take due precaution against these sources of mischief, and moreover, the state of the stomach and bowels should be carefully attended to and regulated. If the bowels be confined, a gentle aperient should be taken; and, on the other hand, any tendency to diarrhœa must be arrested without delay. If the tongue be coated, there be nausea and uneasiness of the stomach, and the system seems feverish, without the bowels being much deranged, a mild emetic of ipecacuanha is desirable at bed-time, especially for young people. The diet should be simplified, avoiding fish, fruit, and pastry, in a great measure, and acids and ices should be altogether abstained from.

CHOREA, OR SAINT VITUS'S DANCE.

This is a nervous disease, affecting young people, especially those of weak constitution. It consists in involuntary muscular movements, resembling violent trembling, which may affect the whole, or only a portion of the body or limbs, or sometimes one part is seized and then another. When the disease is severe it amounts to convulsive action, causing violent jerking of the limbs, so that often the arms cannot be used in an ordinary manner, and nothing can be carried in the hands; and there is often a peculiar jumping and starting in the gait, which sometimes renders walking almost impossible. There may even be difficulty in swallowing and speaking. The convulsive movement generally ceases, or at any rate is abated, during sleep. Some amount of constitutional disturbance usually precedes the attack, and want of tone and loss of strength are very often apparent. A fright may occasion the disease, also the suppression of any eruption or discharge; but the commonest cause is constituted by irritation of the digestive organs and derangement of their functions.

Treatment.—The restoration of a healthy state of the stomach, liver, and bowels must be our first object, and the free use of purgatives is usually called for. About ten grains of rhubarb and one or two grains of calomel may be given for three or four consecutive nights or mornings to a child of twelve years of age; where the stomach is excessively foul, a gentle emetic may be administered at the outset, F. 87. The aperient action should then be kept up gently with such medicine as F. 48, 49, 52, 70, 73, or the compound decoction of aloes, adapting them to the nature of the case; and at the same time we may commence the administration of tonics, such as the sesquioxide of iron, in doses of from five to fifteen grains three times a day; or the oxide of zinc, in doses of three to five grains; or the oxide of silver, in doses of from a quarter to half a grain: the two latter medicines may be given as powders, combined with a little compound cinnamon powder, or in the form of pill, combined with a little extract of henbane. Iron may be given also as per F. 164, or in combination with quinine, as per F. 165. In obstinate cases arsenic may be tried; to a child twelve years old, two drops of the solution of arsenite of potash may be given three times a day in a little cinnamon water.

CHRONIC DISEASE

Is that which is of minor degree in point of intensity, but of long duration. It may, therefore, be the relic of acute disease, or it may be well-nigh imperceptible in approach and gradual in its growth. It may be an inconvenience

merely, or it may amount to severe suffering. Having once arrived at a certain point, it may there continue without much tendency to increase, or it may go on gradually augmenting until life is in peril. All the different acute diseases alluded to in these pages may assume a chronic form, and, as a general rule, will then require a modification of similar treatment; but this class of complaints do not long retain the mere simple characteristics of their original prototypes, but become more or less connected with and subordinate to peculiar constitutional derangement. Debility and irritation are the two essential elements of chronic disease; the blood, the nerves, the various glands, and other structures may become the media of its manifestation. The access of disease may take place through the various systems of the organisation, as I have endeavoured to demonstrate in the preliminary considerations. The constitution resists, and strives to react against any external morbid action; but continuous or repeated injurious impression, especially if the point of attack be weak, will at length produce a permanent effect. It is important to remark that whatever structure of the body may be affected with chronic disease, and in whatever manner its attack may have originally been instituted, the digestive organs are sure, sooner or later, to become implicated.

The treatment of chronic disease may be characterised as general and special. General constitutional treatment is more or less essential in every form of chronic complaint. This will consist in the improvement of the general health by every possible means; air, exercise, and diet must be regulated in every respect that may seem desirable. Healthy secretions, especially in connexion with the digestive functions, must be promoted, irritation must be relieved, and tonic remedies must be given if there be marked debility. The retention of unhealthy and depraved secretions is a common cause of the maintenance and aggravation of chronic disease, but in promoting their evacuation our means should be mild and gradual, and not violent and sudden. The pills F. 37 or 38 may be resorted to, or alteratives, such as the compound calomel pill, or F. 1 or 3, followed in the morning with moderate doses of the decoction of aloes, or by such medicines as F. 43, 46. Aperient, stomachic, and tonic medicines may require to be selected, according to the nature of the case. Special treatment is a matter of secondary consideration, and, indeed, in carrying out that which is general, we cannot fail to institute an alterative and derivative influence on the local disease itself. Counter-irritation and local stimulation by blisters, tartar emetic, issues, bathing, friction, &c., may be needed, or the systematic administration of special alterative medicines, such as mercury, iodine, sarsaparilla, taraxacum, guaiacum, &c., may be required, but this is only in a great minority of cases, for if the adaptation of our treatment be judicious, the mildest means may generally be made to answer.

COLD IN THE HEAD, OR CORYZA.

This is constituted by an inflammatory state of the membrane lining the nostrils. It commences with a sensation of dryness, fulness, or obstruction of one or both nostrils, which is quickly followed up by a mucous discharge: the eyes are also apt to become affected, and from the extension of the inflammation upwards into the sinuses or cavity of the bone, there is often much pain just over the root of the nose, constituting a kind of headache. The irritation gives rise to much sneezing. If the affection passes downwards to the throat and chest, it then assumes a more serious form, which we have spoken of under the head of catarrh. A good dose of aperient medicine, such as F. 68, or a seidlitz powder, followed up with F. 77, 78, or 80, and the observance of low diet for twenty-four or forty-eight hours, will speedily arrest the complaint.

COLIC.

This disease depends on spasmodic and irregular contraction of the muscular structure of the bowels. It is indicated by intense but intermitting abdominal pain, mostly about the navel, and is not generally much aggravated by pressure. There is costiveness, and sometimes nausea and vomiting. The abdominal surface is mostly flat or retracted, but sometimes there is much flatulent distension. Little or no feverish action is usually present. The contractile action of the intestine is sometimes so altered and disturbed, that it assumes a retrograde direction, and so gives rise to the discharge of fecal matter from the stomach. The complaint may be produced by indigestible food, neglected bowels, taking cold drink on a heated stomach, congestion of the liver, some mechanical stoppage, or poisoning by lead. It must be carefully distinguished from strangulated hernia, which may give rise to very similar symptoms.

The treatment consists in relaxing the spasm and opening the bowels. Hot fomentations should be applied, and a full dose of castor oil should be administered, or an aperient, such as F. 44, 45, may be given. If, however, the stomach is very irritable, any aperient medicine may be rejected: in such case a mustard poultice should be applied to the abdomen, and a good dose of calomel, from three to eight grains, with one grain of opium, should be given immediately, placed dry on the tongue, to be followed in the course of an hour by an aperient if the sickness abate; otherwise a large glyster of thin warm gruel, two or three pints, with two ounces of castor oil, should be administered. If relief be not obtained in the course of an hour, further recourse must be had to opium: this may be given in the form of a elyster: a drachm of laudanum may be thrown up the bowel in a quarter pint of thin starch. If we cannot thus obtain relief, powdered opium should be given, in doses of from one to two grains, combined with one grain of calomel, every hour until the spasmodic pain abates, when it should be followed by an aperient. The effervescing saline F. 102 may be given at intervals.

In painter's colic a free opiate treatment should be resorted to from the commencement. If the case be mild, and there be no sickness, the mixture F. 17 may be given until the pain abates, when, if the bowels are not open, an active aperient, such as F. 63, 65, 68, or 69, should be given, or castor oil. In more severe cases, the calomel and opium treatment above mentioned must be steadily persevered in in combination with the administration of aperients. Painters' colic is occasioned by the poisonous action of lead. To guard against this mischievous influence, cleanliness is the great preservative, and if the bowels are inactive, one ounce of Epsom salts may be dissolved in a quart of water, and of this about a wineglassful may be taken every morning, so as to maintain a regular aperient action.

CONGESTION OF THE BRAIN.

This depends on excessive fulness of the blood-vessels of the head, and consequently an impeded state of the circulation. When it takes place to a great extent it constitutes apoplexy, as already noticed, but in a minor degree the symptoms are less severe; there is headache and giddiness, and there may be temporary loss of sight or of speech, or some partial paralysis, the pulse may be slow and labouring, or it may have an oppressed character merely, and the veins are generally turgid. Congestion of the brain is often connected with a preternatural fulness of the general vascular system, and will bear the abstraction of blood well. The other treatment must be a modification of that for apoplexy.

CONGESTION OF THE LUNGS.

This is the case where the lungs are gorged with blood, so that its transit and conversion takes place slowly and with difficulty. It may be connected with a plethoric state of system, but more especially with structural disease of the heart. Exposure to cold is a common exciting cause, and it may pass on to inflammation. When in excessive degree, it constitutes pulmonary apoplexy. In cases of pulmonary congestion the breathing is slow and oppressed, the heart's action is weak and imperfect, the surface is cold and pallid, and there is some failure of sensibility and muscular power. The disease must be treated in the first place with diffusible stimulus, such as æther, ammonia, and hot spirits and water: a mild emetic, F. 87, is at the same time often desirable, especially if any indigestible food have been taken, and a mustard poultice may be applied for half an hour. If there continue much oppression of breathing when reaction has come on, cupping or bleeding will be requisite, and blistering may subsequently be advisable.

CONSTIPATION.

This is often a troublesome and vexatious complaint, and one which there is sometimes much difficulty in effectually relieving. It very commonly originates in a sedentary mode of life, and is very liable to attack females in consequence of inattention to the ordinary calls of nature. It may occur in persons of robust habit, or in those of weak and delicate health. In the first case, the digestion may be somewhat too active, occasioning the too perfect absorption of the fluid digested matter, and giving rise to a want of due sensibility of the large bowels. In the second instance there is a debilitated state of the muscular structure of the large intestines, almost constituting a kind of paralysis. Regulating the diet and regimen will often obviate a costive habit. Thus astringent and heavy food should be avoided, the substitution of brown or whole-meal bread for that ordinarily procured from bakers may be tried. The diet, if of too animal nature, should be rendered of somewhat more vegetable character. Half a pint of cold spring water drank at first rising in the morning sometimes proves serviceable. Habits of indolence, and long indulgence in sleep, must be corrected, and a due proportion of active exercise should be resorted to.

If these simple means be insufficient, medical treatment must be made available, but if this be well adjusted, very mild measures usually suffice. The bowels must rather be solicited than stimulated. The pills F. 30 or 35, taken at bed-time or before meal-time, will often obviate a torpid state of the bowels. The decoction of aloes, taken in doses of from one to two ounces, is a good tonic laxative. Where the liver is inactive, and there is a deficiency of bile in the evacuation, a combination of extract of aloes, blue pill, ipecacuanha, and soap, of each one grain to a pill, is often exceedingly useful when taken immediately before or after dinner. The addition of half a teaspoonful of any common neutral salt, such as Rochelle salts, Epsom salts, or Glauber's salts, in the morning may also be necessary to produce a satisfactory aperient effect. For the relief of habitual constipation, however, we have no remedy more efficient than enemas. Half a pint of warm water thrown up the bowels immediately after breakfast, will often effect a satisfactory evacuation with the greatest ease and facility. In some instances, however, the conjunction of the aperients, such as an ounce of castor oil, half an ounce of Epsom salts, or even some infusion of scuna, with from half a pint to a pint of warm gruel, may be required, and when the constipation is obstinate and long-continued, a long tube may be introduced up the bowel to the extent of eight or ten inches, and a quart or more of warm fluid, with or without any aperient adjunct, should be gradually pumped up. Thus very troublesome obstruction may be overcome. Obstinate

constipation may be caused by the lower bowel being blocked up with hardened faeces, when large warm injections of thin gruel, with olive or castor oil, will be requisite, and it sometimes happens that an obstruction of the kind has even to be broken up and removed by mechanical interference. It is not the mere immediate inconvenience of constipation which has to be feared, but much ultimate mischief may result if it be neglected, such, for example, as piles, fistula, ulceration, or stricture.

CONSUMPTION.

This disease depends on a serofulous state of constitution, which especially determines to the lungs. There is a peculiar condition of the blood, and under an unhealthy influence exerted on the skin and pulmonary membrane, it undergoes an alteration which leads to the deposition of tuberculous matter. The changeable nature of the British climate, its moisture, with its frequent alternations of temperature, peculiarly favour the development of pulmonary consumption, and render it a devastating scourge amongst us. It is generally acknowledged that the blood is materially deteriorated in the disease in question, and it has been clearly demonstrated that the composition of the vital fluid, as well as the combination of its materials, undergoes a marked alteration. Imperfect organization of the blood may, therefore, be assumed to be the essential element of that form of serofula known as pulmonary consumption. Consumption will be found to originate in many different causes, either singly or combined, which we may consider in the following order:—We may have an original constitutional predisposition, which may undoubtedly be hereditary, and transmitted to the child from either parent. It may be connected, on the one hand, with an original feeble formation of the animal tissues, attended with considerable nervous irritability; or on the other, it may depend on a peculiar unnatural activity of system, which causes all the changes of the organization, nutrition, absorption, secretion, &c., to take place with undue rapidity. This second state is of most deceptive character, an appearance of the highest health being often apparent, when the canker of disease is already at work. Any depressing influence may occasion consumptive development, lowering the nervous power, and thereby producing general constitutional debility. Thus, grief is a potent cause, and anxiety, over-exertion, deficiency of nourishment or rest, by exhausting the bodily strength, may give rise to a consumptive tendency. The habitual breathing of impure air, too sedentary an employment, may also be considered as disposing to consumption by impeding due respiratory action. Digestive derangement tends greatly to the development of consumption; the blood is formed from the food, and unless its conversion be duly effected, the sanguineous organization must be imperfect. The digestive process is in the highest degree complicated, and its disorders are very various, but there can be no doubt that a peculiar form of derangement is in close relation to tubercular formation, for how else can we account for the mesenteric disease of children, or the serofulous state of the liver, so commonly occurring in those affected with consumption? Any undue excitement or irritation of the respiratory organs will tend to develop consumption, especially attacks of pulmonary inflammation, and also the rupture of blood vessels in the lungs. The morbid action may set up slowly from a congested state of the lungs, occasioned by cold and damp air, or from unnatural stimulation of the lining membrane of the lungs by the inhalation of irritating vapours or dust, incidental to many occupations. Consumption is more frequent in females than in males, and is most apt to occur between the ages of twenty and thirty.

Nature and Symptoms.—Pulmonary consumption consists essentially in the deposit of tubercles in the lungs, and this deposition may take place in various

modes and with different degrees of rapidity. This morbid action is attended with more or less feeling of depression; the spirits become irregular; there is loss of flesh; the strength fails; the breathing is hurried and embarrassed; the chest becomes uneasy; a hacking cough comes on, gradually increasing; there is inability to lie on one side or the other; sore throat and hoarseness are often complained of; the pulse is quickened, and there is slight occasional fever, with an undue tendency to perspiration at night; the appetite may continue good even to the last, and will sometimes be craving. As the disease advances the whites of the eyes assume a pearly hue; the complexion is paler; the cough becomes more severe; purulent and tubercular matter are expectorated; the night perspirations become excessive; there is extreme debility; the heart's action becomes weaker and quicker; superficial ulceration of the mouth takes place; emaciation gradually supervenes; and when the various symptoms have reached a certain point, the patient sinks and dies. There are other symptoms which, though not essentially belonging to consumption, often form part thereof. Spitting of blood is a common antecedent and accompaniment of the disease, and often accelerates the fatal result. The symptom depends, in the first place, on the impeded circulation of the blood through the lungs, and subsequently on the destructive tendency of the tubercular ulceration, which, in some instances, seems to exert a corroding power, while the violent spasmodic nature of the accompanying cough materially promotes the mischief. Diarrhœa often attends the latter stages of consumption, depending in a great measure on the ulceration of the bowels, which seems to be instituted by the tubercular influence on the entire system. In some constitutions repeated inflammatory attacks will accompany the development of consumption, giving rise to much temporary pain and feverish action. The duration of the malady varies much, and may extend from months to years.

Treatment.—To discuss the treatment of consumption is difficult consistently with any degree of brevity, and our observations here can only be limited and general. That consumption is curable in its early stages cannot be doubted, and we may be able to arrest and alleviate the disorder in its more advanced states. Much may be done at the outset of the disease by careful examination as to its cause and origin. Consumption is decidedly a disease of debility, and the improvement of the constitution by every possible means is essential. Medicines of all kinds have in turn been vaunted as specific remedies for consumption: acids, alkalies, turpentine, vegetable and mineral tonics, various sedatives and narcotics have all had their day, and cod-liver oil is the present infallible remedy. Under suitable circumstances any of these medicines may be available, but attention to air, exercise, diet, and general regimen will often do more towards improving the system than all the farrago of medicines which are commonly administered. Steel will often do good when the blood is poor and imperfectly organized. Cod-liver oil is exceedingly serviceable, as will presently be noticed. Morphine, hemlock, and henbane may be useful in allaying the state of excessive irritation which often exists. As already pointed out, the digestive organs are often mainly concerned in the development of consumption, and the remedy of their derangement must therefore constitute a main part of the treatment throughout the course of the disease. Thus the diet should be light, nutritious, and unirritating, and on no account of a highly stimulating or indigestible character. To promote the digestive action is of great importance, and for this purpose it is surprising how much benefit may be derived from the persistence in the use of such simple medicines as F. 145. Where there is an inclination to costiveness, it is obviated by the pills in question, or if more is requisite, the compound colocynth pill will suffice, or F. 42 or 45. In consumptive disease, mercury should rarely be resorted to, either as an aperient or an alterative, as it is liable to prove highly prejudicial. There is cer-

tainly no special remedy from which such obvious benefit is derived in every stage of consumptive disease as one we have already alluded to—viz., the cod-liver oil; it seems to antagonize the tubercular action in the blood itself, to promote the nutrient action of the system, and will often afford relief to the various symptoms in the promptest and most marked manner. The dose of cod-liver oil is from one teaspoonful to a tablespoonful taken three times a day. It is best administered in a small quantity of good orange wine, with the addition of ten or fifteen drops of dilute nitric acid to each dose; or in a half-wineglassful of a mixture composed of two drachms dilute nitric acid, one ounce tincture of hop, half a drachm dilute hydrocyanic acid, one ounce syrup of orange peel, and compound infusion of gentian to eight ounces. This medicine not only prevents the nauseating effect of the oil, but exerts a tonic effect on the stomach, at the same time that it allays constitutional irritation. Cod-liver oil is, however, very apt to produce a congested state of the liver, and to interfere with the action of the bowels, which must always be carefully obviated. The various special symptoms may require attention. Blood-spitting, copious purulent expectoration, profuse night sweats, may be relieved by astringent medicines, such as F. 54 or 55. Diarrhoea may be restrained by small doses of opium or the medicine F. 114; and the solution of morphine (*see* OPIUM), or the drops F. 117, will not fail to relieve any violent spasmodic cough. The local treatment of the pulmonary disease, even in its earliest stage, should consist mainly in counter-irritation, gradually but perseveringly effected by the use of tartarized antimony, which should be applied over the site of the disease by means of the ointment F. 140, or what is still better, by means of a compound pitch plaster, with which tartarized antimony has been incorporated in the proportion of one drachm to the ounce; by these means a considerable crop of pustules should be excited for a sufficient length of time, care being taken not to occasion too much general irritation, or the benefit to be derived will be thereby negated. Tartarized antimony thus applied seems to have a peculiar influence in lowering respiratory action, as may be readily observed, and thus has much power in diminishing the irritable condition of the lungs.

The warmth of the surface should be secured by sufficient clothing, especially flannel next the skin, which should be changed at bed-time. Gentle and regulated exercise is undoubtedly desirable in consumptive complaints, promoting the absorption of pure air, and exciting the pulmonary organs to healthy exertion. Change of scene and a quiet mode of life are advisable. Change of air is often very serviceable; but, as a general rule, it is a great mistake to seek a very warm or moist relaxing climate, which may allay the symptoms, but cannot fail to precipitate the final fatal result. When a locality is liable to very cold and variable weather, a milder and more equable temperature may be advantageous; but, as a general rule, a change to a climate more dry and bracing, but not raw and cold, will be attended with the greatest and most permanent advantage. In some constitutions sea air seems peculiarly serviceable. When there is a delicacy of constitution tending to consumption, the resort to a warm and equable climate, such as that of Australia, may be desirable; but when the disease has already taken a firm hold, and the vital strength is failing, such a change will not fail to hurry the fatal result by exerting a depressing influence.

CONVULSIONS

Consist in irregular and involuntary contractions of a part or the whole body. First one set of muscles, and then another, may become affected, and the degree of violence of the muscular contraction is very variable. Over-excitement is the usual cause of convulsive attacks in adults, and they are most apt to attack those

who are of nervous and hysteric temperament. They may also depend on injury or disease of the brain.

The treatment of convulsions must vary according to circumstances. If there be plethora or great vascular excitement, depletion may be requisite, and blood require to be abstracted locally or generally. Sedative medicines may also be desirable, such as tartarized antimony; brisk purgatives, such as F. 68, 69, and 70, preceded by a dose of calomel, will also have a salutary lowering effect by causing copious evacuations. If, however, the convulsive attack is of nervous and hysteric character, stimulant and tonic medicine will be required—zinc, iron, valerian, quinine, &c., the state of the bowels being at the same time regulated. (*See INFANTILE DISEASES.*)

COUGH.

This depends on irritation of the air-passages, which may originate in various causes. A common catarrhal cough is occasioned by a dry tender state of the lining membrane of the air-passages and cells, or on the presence of an undue quantity of mucus, which has to be expectorated. Another common cause of cough is sympathy with a deranged state of the digestive organs. There are numerous other more serious forms of cough, which depend on inflammation of the lining of the air-passages, or of the substance of the lungs themselves, on consumption, asthma, water on the chest, and whooping-cough; these are noticed under their appropriate heads, and here we have only to speak of the common forms of cough first alluded to.

Treatment.—The first kind of cough mentioned may be treated with medicine such as F. 116, 117, or, if there be a feverish state, antimonial medicine, such as F. 33, 75, 111, may be resorted to. A mustard poultice occasionally to the chest may be advisable. The second kind of cough requires medicine of more expectorant character, to bring up the phlegm, and at the same time to soothe the unhealthy surface. An emetic of ipecacuanha or ipecacuanha wine is often beneficial in the first instance in relieving the clogged state of the chest. The medicines F. 93, 94, 96, 97, may be serviceable in this kind of affection. In old cases of various kinds, in addition to the medicines mentioned, we may resort, according to circumstances, to such as F. 95, 98, 99, 109. In all cases of coughs it is of consequence to regulate the condition of the stomach and bowels, but when the complaint is sympathetic with a deranged state of the stomach, it is more essentially so. This form of complaint is very common with children; it may be treated with a gentle emetic of ipecacuanha, or such as F. 87, 88; the bowels should then be freely acted on by appropriate cathartics or aperients, before the administration of any cough medicines is attempted.

COW POX.

This is, in fact, a mild and innocent form of small pox, by which the natural deadly form of that fearful disease is superseded and prevented. It consists in implanting into the human body the disease as it naturally occurs with the cow, and it is then transferred, in endless succession, from one human being to another. Now, small pox, as a general rule, is a disease which can occur but once to an individual; so, therefore, if he have had the vaccine small pox once, he will not then be liable to the natural disease. Such is the general rule, to which, however, exceptions do occur. In some instances, natural small pox may occur after vaccination; so, in like manner, vaccination may be effectual twice or more,—that is, a person may be affected twice with cow pox; and so again, a person may be twice afflicted with the small pox; and though this latter case is comparatively rare, yet it occurs sufficiently often to establish the analogy.

The mode of imparting the cow pox is by inserting the matter fresh or dry, on the point of a lancet or a small piece of ivory, underneath the skin, to a sufficient depth just to draw blood, or it may be smeared over two or three minute scratches. This should be done in two or three places on each arm, a little below the shoulder, at intervals of about half an inch. From the third to the fifth day the vaccinated spot becomes somewhat inflamed; about the sixth or seventh day a small circular inflamed lump has formed, and in the centre a minute spot or vesicle, containing a small quantity of aqueous fluid. This has a well-defined circular or oval form, and gradually increases until the ninth or tenth day, becoming depressed in the centre; the fluid then becomes thick and turbid—in fact, mixed with purulent matter. The swelling continues to increase considerably, and there is much surrounding inflammation until about the twelfth day, when the scab begins to form. When the disease is subsiding, a little mild aperient medicine may be desirable, but this is not absolutely requisite.

Vaccine matter is obtained by slightly pricking the vesicle, and should be taken before the ninth day, on no account later, nor should it be had from any one in whom the vaccination has not run its natural course. The person it is taken from should be healthy, and free from any cutaneous or glandular disease, but that from an infant of rather a delicate constitution is often more potent than that from one which is very robust and healthy. Under twelve months old is the best age for vaccination, and the practice of re-vaccination at intervals of from seven to ten years is to be strongly recommended. It is well ascertained that vaccination will often prove curative of certain forms of cutaneous affections, ophthalmia, whooping-cough, and other complaints; but on the other hand, if any cutaneous eruption exist at the time of vaccination, it may thereby be rendered imperfect and irregular in its development, and therefore not duly protective.

CRAMP

Consists in sudden and painful contraction of the muscles of the limbs, trunk, or throat; the calves of the legs and the muscles between the ribs are very apt to be affected. Indigestion or feebleness of the circulation will occasion this painful complaint. Friction and warm applications are generally sufficient remedies.

CROUP.

This is either a spasmodic or inflammatory disease, most usually the former. Young children are chiefly liable to its attack, which is rare after adolescence.

SPASMODIC CROUP, or, as it is sometimes called, *laryngismus stridulus*, usually comes on suddenly, often in the night, but is sometimes preceded by a clanging cough, hoarseness and shrillness of voice, and a general feverish state. During the fit respiration becomes difficult, the countenance is distressed, and the sound of inspiration is loud and crowing. Sudden change of weather, indigestion, or over-excitement will occasion a paroxysm, and delicate children are most liable to be affected. Undue contraction of the windpipe, brought on by an irritable state of the lining membrane, constitutes the nature of spasmodic croup.

Treatment.—The treatment of spasmodic croup consists in the prompt administration of an emetic. The antimonial wine may be given to an infant in doses of one teaspoonful every ten minutes until free vomiting takes place; in older children the dose should be in larger proportion. A warm bath should be resorted to as speedily as possible. After there has been free vomiting, the sedative action of the antimony should be kept up for some hours. F. 119 is available for the purpose, but if we have reason to believe that indigestion is the

cause of the attack, we must administer a mild aperient within a few hours : castor-oil, or F. 48, 49, 73, 74. If there is any tendency to the continuance or recurrence of the spasmodic state, the anodyne embrocation, F. 19, should be used, and a piece of flannel soaked in it applied to the throat and upper part of the chest will not fail to be of much service.

INFLAMMATORY CROUP is a more severe and dangerous disease, and will require more active treatment. Its approach is more gradual, the febrile symptoms run higher, and the paroxysm is more intense and lengthened. The treatment of spasmodic croup should in the first instance be resorted to, but if the antimonial action does not afford relief, leeches must be applied : two or three are usually enough for a young child, for if blood be too largely drawn it diminishes the ultimate chance of recovery ; a warm poultice should be applied over the leech bites. Small doses of calomel and James's powder, one grain of each for a child about twelve months old, every hour or two, constitute our best medicine ; a blister may also be applied to the nape of the neck, and anodynes, in the shape of henbane or minute doses of solution of morphine, must be given if there is much restlessness and excitement.

In the intervals of attacks of croup, whether spasmodic or inflammatory, regulated diet, the improvement of digestive action, and change of air, are our best means of prevention. Cold must be guarded against, plenty of active exercise should be resorted to, and every possible means of improving the general constitutional strength made use of.

DEAFNESS.

Inability of hearing may depend on a variety of causes. Inflammation may have given rise to thickening or alteration of some part of the internal ear, or it may have destroyed some portion thereof, and so have seriously injured its mechanism. Thickening of the drum of the ear is perhaps the most common morbid change of inflammatory character. Lodgment of indurated wax in the outer passage of the ear is a common cause of deafness. Obstruction of the eustachian tube, a canal which transmits air from the throat to the internal ear, may occasion it. We also have nervous deafness, which depends on weakness of the nerve of hearing.

The treatment of deafness depends on its kind. If there be any active inflammation, warm and soothing applications should be resorted to ; if it be old and chronic, counter-irritation by blisters, sinapisms, or the antimonial ointment, F. 140, will not fail to be useful when sufficiently persevered in, and if there be much discharge, mild astringent and stimulating lotions should also be used. Where the ear is obstructed by indurated wax, it should be removed by syringing with warm water. When deafness is accompanied by deficient secretion of wax, a combination of one drachm of glycerine, twenty grains of powdered borax, and seven drachms of rose-water may be used ; a portion of cotton wool moistened therewith being kept inserted in the ear, changing it night and morning. When the canal from the throat is closed, it may require to be relieved by the passage of instruments. Nervous deafness requires tonic treatment and improvement of the general health. Recent deafness often originates in constitutional derangement, and alterative treatment will do much to relieve it ; this may consist in four or five grains of blue pill every other night, and one pint of compound decoction of sarsaparilla in the course of each day, or a course of pills such as F. 1 or 38 may be useful.

DEBILITY.

This is generally the consequence of disease rather than a disease in itself, and then our line of treatment is obvious. The constitution has a tendency to rally itself, and a course of tonic medicines, good diet, and change of air will usually soon realize the wished-for result. Sometimes, however, from undue wear and tear, or some occult depressing influence, the strength fails, the nervous system becomes irritable and imperfect in its action, and the vital energy sinks rapidly. These cases often occasion no little distress and perplexity, and we are at a loss for the best means of treatment. They may be regarded as cases in which the blood has become imperceptibly deteriorated, and consequently every structure of the body has become impoverished and relaxed: thus we cannot be surprised that the nervous system should gradually lose all tone and energy. Change of air, careful regulation of diet, cold shower baths, and various forms of tonic medicines are advisable, but we must never lose sight of the existence of deep and serious derangement of the digestive functions, which, though but little apparent, is sure to accompany the complaint, and requires the most careful treatment. A mild aperient and alterative course may be requisite in the first place, for which purpose F. 29, 31, 42, 43, are good laxative medicines; F. 1, 2, 9, 38, may be used as alterative ones; and F. 32, 34, 35, and 147 are good aperients and stomachics. Tonics may be resorted to according to the circumstances. A course of decoction of sarsaparilla, at the rate of a pint a day, may in some instances be useful, and, if necessary, the cod-liver oil may be made use of.

DELIRIUM.

This originates in a temporary excited and vitiated state of the perceptive and imaginative faculties; there is a want of control over them, which may lead to incorrect judgment, and even violent and extravagant actions. We usually have unconsciousness of thought and action; that is, nothing which takes place is subsequently remembered. Delirium, however, arises merely from a peculiar state of brain, therefore constituting but a symptom and accompaniment of general disease; it may vary greatly in degree, from mere fancy and slight muttering to the most frantic violence and raving. It may attend any inflammatory action, or the lowest state of typhoid, or any nervous debility, and sometimes it accompanies very mild complaints. To distinguish mere delirium from insanity is a point of the utmost importance: the temporary nature of the former, and its being merely an appendage to some other diseased state, will generally guide our judgment; but it is often a matter attended with much difficulty, especially in the form of the disease I am about to mention.

DELIRIUM TREMENS.

Delirium tremens, or drunkard's delirium, has all the characteristics of delirium which we have already mentioned, and generally in a high degree. It is also especially indicated by an involuntary muscular tremor, which may be marked or very slight, but is generally perceptible if we watch the patient's hand. It is invariably the result of the abuse of alcoholic liquors, and may be the immediate sequence of a debauch, or may be the later and more subsequent consequence of habitual drinking. In spite of the apparent excitement, a state of nervous exhaustion and debility is always at hand, and the treatment required is therefore of peculiar nature. The recognition of the cause, and the suddenness of its occurrence, will usually enable us to distinguish delirium tremens from insanity; but to distinguish it from inflammation of the brain is

often more difficult, and on account of treatment more important. What, therefore, are the chief peculiar symptoms of each disease? Of inflammation of the brain, high inflammatory fever, a hard and small pulse, violent delirium, recognising nobody, and taking little notice of anything going on, great pain in the head, blood-shot eyes and contracted pupils, nausea, and vomiting. Of delirium tremens, a feverish state, attended with quick pulse, but rarely of inflammatory character, the skin being often moist, or even bedewed with perspiration. The delirium is busy and fidgety in character, rather than violent in degree, and is attended with the most unfounded delusions, though the patient often takes much notice of what is going on around him; and especially we have the peculiar characteristic muscular tremor. Sleeplessness usually precedes the attack. A certain amount of inflammation, or at any rate vascular congestion of the brain, will often be combined with delirium tremens, and thus perplexes the diagnosis, and makes the treatment difficult.

Treatment.—We have to allay the nervous excitement and irritation which constitute the essential part of the disease. When this state is connected with the exhaustion occurring subsequently to the stimulating influence of alcoholic fluid, perhaps almost immediately, then opium must be our remedy, and if the case be severe, forty, fifty, or sixty drops of laudanum should be given at once, and half the dose should be repeated every one or two hours until sleep is produced. If there be evidently much nervous depression, the patient may also require the free administration of whatever stimulating liquor he may be accustomed to. A free aperient should be given as early in the course of the treatment as can be managed; if possible, before the administration of the opium, which then will have a better effect. Such as F. 44, 45, or 68 may suffice, or if there be difficulty in acting on the bowels, the croton oil pills, F. 72, may be given. But when the excitement and irritation are more immediately connected with the alcoholic stimulation than in the first kind of case, and seem partially depending on increased circulation of blood in the brain, and a congested state of its bloodvessels, so as even to present some of the especial symptoms of cerebral inflammation, we have then the combination of mischief to which I have alluded already. In such a case the abstraction of a little blood may be advisable; but we must carefully watch the effect on the system, and not carry it too far, generally following it up immediately with half a grain of acetate of morphine, which is more directly sedative than the mere opium, and by some is preferred even in the first form of the disease; or if the abstraction of blood be feared, we can speedily allay the vascular excitement by the administration of tartarized antimony, one quarter or half a grain every ten minutes or quarter-hour, until nausea, or even sickness, is produced. In this second form of disease, purgative action must on no account be omitted. By the judicious adoption of the above treatment the second form of delirium tremens will often be arrested; but if it goes on subsequently we must resort to the steady use of opium or morphine, and we must especially bear in mind that the vascular excitement always tends to become connected with that which is purely nervous. When spirituous or other stimulating liquors have been recently taken, and there has not been vomiting, the administration of an emetic is very desirable at the commencement of any case of delirium tremens.

DIABETES.

This is a rare and dangerous disease: it consists of an excessive discharge of urine, which, in the worst form of the complaint, contains a large proportion of sugar, rendering it sweet to the taste. This disease is attended with voracious appetite and insatiable thirst. There is great debility and excessive emaciation. The bowels are obstinately costive, and the lungs are often diseased at the

same time. This complaint is supposed to depend on deranged digestion, and has hitherto proved incurable, though its progress may be much delayed, and the symptoms much ameliorated. Animal diet and general tonic treatment have appeared to do the most good.

DIARRHŒA, OR BOWEL COMPLAINT,

May consist merely in looseness and frequency of the evacuations from the bowels, or it may be attended with intermitting pain or griping. Increased activity of the motion of the bowels, and undue secretion from the lining membrane thereof, constitute the complaint. Diarrhœa may be bilious, that is, attended with a great flow of bile, or it may be merely mucous. Injudicious diet, hot weather, or sudden change of temperature, are the chief causes of diarrhœa.

The treatment is simple. If it be supposed that the irritation is caused by the presence of any indigestible food, a mild aperient may be given in the first instance, such as F. 41, 44, 45, or 151, and to any one of these a few drops of laudanum may be added if there be much pain. If we suspect the liver be not acting, which is usually the case where there is a sensation of sickness, and especially where there has been any over-indulgence in stimulating liquors, then it is well to precede the aperient by two or three grains of calomel, or five grains of blue pill. If after a few hours the complaint be not checked, we should resort to the F. 114, 152, repeating the doses as requisite. In common diarrhœa, where the presence of undigested food or acrid bile is not suspected, either of the latter medicines may be resorted to in the first instance without loss of time. The diarrhœa of infants especially, occurring during dentition, should not be too hastily checked; a little of the grey powder, succeeded by a small dose of castor oil, may be desirable if the secretions be deranged, and subsequently, if necessary, eight drachms of chalk mixture, with the addition of one drachm of tincture of henbane and thirty drops of ipecacuanha wine, given in teaspoonful doses, will usually be found efficient.

DROPSY.

This disease consists in the unnatural formation of watery fluid beneath the skin, or in some of the cavities of the body. Dropsy beneath the skin is called anasarca, or if local and circumscribed, œdema; dropsy of the head is termed hydrocephalus; dropsy of the chest, hydrothorax; abdominal dropsy, ascites; dropsy of the ovary in the female, ovarian dropsy; dropsy of the serotum, hydrocele.

Dropsy of every kind is usually connected with some local or general debility. It is often dependent on disease of some important internal organ, and there may be an unnatural state of the blood. The removal of the dropsical effusion is most obviously indicated: this is to be effected by diuretic medicines, or those which act on the kidneys, promoting the flow of urine; or by hydragogue purgatives, that is, such as cause watery motions. F. 81, 82, 86, are good diuretic medicines. The compound decoction of broom or the infusion of juniper may also be taken freely. A good hydragogue form is the compound jalap powder, given in repeated doses every few hours until it acts freely; our most powerful hydragogue, however, is the elaterium, or extract of wild cucumber. This may be given in the following form: elaterium, three grains, rubbed down well with half an ounce of cream of tartar, and two ounces of mucilage; to this one ounce of syrup of ginger is to be added, and three ounces of water: of this from one to two tablespoonfuls should be taken every four hours, until copious watery stools are produced. Repeated doses of blue pill or

calomel at bedtime, or even oftener, are sometimes useful adjuncts to diuretic or hydragogue medicines, or the calomel may be given in combination, as in F. 65, 85.

The various forms of dropsy require peculiar modifications of treatment. Dropsy of the head depends on inflammation, and requires depletion, calomel, blisters, and diaphoretics (*see* WATER ON THE BRAIN, INFANTILE COMPLAINTS). Dropsy of the chest is not much benefited by purgatives, but requires the use of diuretics with blisters. The medicine F. 83 may be taken, and six or eight grains of Dover's powder at bedtime will often relieve the cough and tend to cause perspiration. Abdominal dropsy generally depends on diseased liver, and may be best relieved by hydragogue purging: it may require the operation of tapping to be performed. Dropsy under the skin is very often the result of diseased kidneys, or the sequel of scarlet fever, when purgatives, diuretics, and warm baths may be useful. All these forms of dropsy may be attended with inflammatory symptoms, when depletion and low diet may be requisite; but far more often they are connected with a debilitated state of the system, and an impoverished condition of the blood, and tonic treatment, with generous diet, are desirable. We have yet to refer to two forms of dropsy. That of the serotal bag, or hydrocele, can rarely be relieved with medicine; a surgical interference is usually requisite. This consists in puncturing the sac, drawing off the fluid, and injecting some moderately stimulating liquid into the cavity. Ovarian dropsy is a most formidable disease, and until late years its nature has been little understood. It seemed to be well-nigh out of the sphere of medical relief, except so far as the maintenance of the general health was concerned; this, however, afforded but a temporary reprieve from inevitable death, until modern science stepped in, and, by one of the most daring surgical operations, afforded the chance of the restoration of life and health by the extirpation of the tumour.

DYSENTERY.

This is an inflammatory disease of the large intestines. The symptoms are frequent bloody mucous evacuations from the bowels, attended with much griping, straining, and bearing down. The tongue may be red and smooth, dark-coloured, or coated with yellow fur. There is nausea, and even vomiting, great thirst, loss of appetite, and often much fever. The disease occurs in the summer and autumn, and is most common in warm countries, where it often exists epidemically. Unwholesome diet, over-fatigue, exposure to night air, are the common causes of it.

Treatment.—Depletion by general and local bleeding was at one time strongly recommended, but it is now far less resorted to. In mild cases, two or three doses of castor oil, half an ounce to one ounce, or of Epsom salts, a quarter or half ounce, accompanied by and followed up by pills or powders of ipecacuanha, calomel, and opium, each one grain, at intervals of two or four hours, will usually be found to constitute a satisfactory mode of treatment. Warm baths or hot fomentations to the bowels are useful adjuncts, and so likewise are small injections of a teacupful of thin starch, with twenty or thirty drops of laudanum, thrown up the bowels at intervals of a few hours: any tendency to constipation must be obviated with Epsom salts or castor oil. A light farinaceous diet should be observed. A recumbent position while the disease is active is desirable. The subsequent debility is best treated with such bitters as cascarilla, calumba, and bark, which may be taken as infusions or decoctions, as recommended under the respective heads, and the diet should be of nutritious but unirritating character. The treatment of chronic dysentery is similar, but less active than that of the acute form of the disease.

DYSPEPSIA.

Dyspepsia, or indigestion, signifies difficulty of digestion, and is of very common occurrence. The importance of the digestive process cannot be exaggerated, and its influence on every other part of vital action is most subtle and extensive. Digestion is the first step towards the edification and formation of the body, and if in any respect it go wrong, the mischief will not fail to make itself felt at the time, or to show itself subsequently in some part of the organization. The brain, the lungs, the heart, the skin, may all or either become more or less implicated by dyspeptic derangement. The most ordinary immediate symptoms are: loss of appetite, furred tongue, unpleasant taste in the mouth, and uneasiness or pain on taking food or during the period of digestion, such as arises from flatulency, acidity, or heartburn. There is usually nausea, or a sense of fulness and oppression; the bowels may be inactive or relaxed; there may be headache; palpitation of the heart may be suffered; and, from the deficient nutrient action, languor, debility, and emaciation will become manifest.

The first form of indigestion is when the process does take place, but is attended with difficulty and irritation, and thus it often occasions inconvenience, which calls for relief. It chiefly depends on weakness and derangement of the nerves of the stomach and bowels, and a stimulating tonic treatment, promoting digestive action, cannot fail to be beneficial. In many simple acute cases, especially those where the liver is inactive, a moderate alterative dose, three to five grains of blue pill, or two or three grains of calomel, followed by an active aperient, such as F. 44, 68, or 69, will at once restore digestive action to a natural balance. When, however, the digestion is in a debilitated condition, we require a more continued stomachic treatment. F. 146, 149, 150, 155, 158, 160, are well adapted to various cases which may present themselves, and if stomachics of more aperient character be desirable, then attention may be directed to F. 47, 143, 146, 147, 149, 156. Where gnawing pain, existing both before and after eating, or water-brash, which consists in the formation and occasional ejection of water from the stomach, or a state of constant nausea, especially when the stomach is empty, are the morbid symptoms which are prominent, then oxide of silver pills, F. 12, are almost an infallible remedy. The nitrate of bismuth, in doses of five grains twice or three times a day, is also a useful medicine; and, at the same time that either of these are administered, the state of the bowels must be carefully attended to, and their regular action maintained, and for this purpose the patient may resort occasionally to any of the aperient forms which may seem desirable, or the constant use of a little compound decoction of aloes may be more advisable.

The second form of indigestion is a much more serious affair. It will be indicated by the symptoms already mentioned, only of a more severe and permanent character. Digestive action is now more seriously impeded and injured. The nutritive matter is no longer duly formed, even to that extent which is absolutely necessary, and its absorption is much interfered with. Thus the blood gradually becomes more and more vitiated, and the functions of the body more and more imperfectly performed. The skin may be sallow and affected with eruptions; the respiration may be embarrassed; the heart's action may be rendered feeble and irregular; the bowels may become relaxed or confined in their action; the nervous system may be rendered highly irritable, occasioning neuralgia, sleeplessness, lassitude, and the failure of all mental power. Thus do we often find a man become the wreck of his former self.

In such cases, however, steady and judicious management may produce the best results, but mere medicinal treatment constitutes a very minor portion of

what is requisite; diet, regimen, and general mode of life demand our careful scrutiny and consideration. The causes of dyspepsia are numerous, and in many cases sufficiently obvious and simple. I say simple, because on the correction and avoidance of those causes the remedial of the disease will mainly depend. Thus over-indulgence in stimulating and intoxicating liquors, the excessive use of tobacco, either in the form of snuff or smoke, the undue employment of purgatives, and the abuse of mercury, are ordinary causes of dyspepsia. Dyspepsia may also be the offspring of fashion, luxury, ambition, and intense mental application, which, in their abuse, warp our very nature, and pervert the existence, and too often are we called upon to counteract their baneful influence. Over-anxiety and grief are also powerful exciting causes. The habits of society in the present day are certainly much opposed to the maintenance of health, and it is only by restoring a more natural and primitive state of living that we can produce a salutary effect. Thus the diet must be reformed, and a simple and nutritious one adopted in lieu of that which was artificial and luxurious. Regular and healthy hours must be substituted for those of gaiety and dissipation, and moderate exercise, early rising, and pure air must replace excitement and over-exertion.

To lay down a scheme of life for the dyspeptic invalid which may be generally available is a matter of difficulty; but I shall, at any rate, endeavour to draw up a brief outline which may be serviceable in connection with the medical treatment. Early rising is essential, especially during the summer months; seven o'clock should be the latest. The body should then be freely sponged over with cold water, or a cold shower-bath may even be desirable. When the mouth is clammy and unpleasant, or there is much viscid phlegm in the chest and throat, the drinking half a pint of clear spring water, a little Seltzer water, or some milk and water, will be found materially to conduce to comfort; any necessary aperient medicine may also then be had recourse to. The breakfast should be taken soon, without any previous exercise, unless a turn in the open air should be agreeable to the feelings. The meal should consist of not more than two-thirds of a pint of cocoa, coffee, or tea, either of the latter not too strong, and with a considerable proportion of milk. Stale or toasted bread, a little grilled or cold mutton, or a moderate proportion of fat toasted bacon. Gentle exercise should then be taken, riding or walking, for the space of two hours at intervals, the remaining time being occupied with reading, agreeable conversation, &c. The hour previous to dinner should be quiescent, and it is at this time that the administration of any tonic or stomachic medicine is desirable. The dinner may consist of fish and meat, fish and poultry, meat and game, meat and light pudding, or poultry and light pudding. The fish should not be rich and oily, such as salmon, eels, &c. The meat should not be over-done, and should consist of beef, roasted or boiled; mutton, boiled, roasted, or broiled; lamb, boiled or roasted. Stale bread, and a moderate quantity of vegetable, especially potatoes, may generally accompany the meal. Rich made dishes and sauces are altogether objectionable. The poultry must be confined to fowls. The pudding should consist chiefly of eggs and milk, which, with macaroni, rice, sago, vermicelli, bread, &c., may assume an almost endless variety. The beverage at dinner may consist of toast and water, very weak brandy and water, or, what is still better, a glass of draught bitter Burton beer; where the tone of the system is very low, or from long-continued custom stimulus is required, one or two glasses of good sherry may be permissible, or even other wine. At this meal, however, the strictest moderation should be observed, and the unpleasant feeling consequent on a full meal carefully avoided. After dinner, rest and quiet for an hour or two are decidedly desirable, and no over-exertion is to be made. One cup of coffee or tea, not exceeding a quarter-pint, will then probably be acceptable, and with it a biscuit may be taken. Moderate exercise

is then again desirable for an hour or two, and tonic or stomachic medicines may again be taken. The supper hour should be nine o'clock at latest; the meal should consist of biscuits, light seed cake, or, at most, a sandwich, with a glass of draught bitter beer, or a little weak brandy and water. Where it is more consonant with the feelings and usual habits to take the prime meal at a late hour, that which is recommended for supper should be taken as lunch at twelve or one o'clock, and the dinner at five or six, the afternoon exercise being taken previously. The hour of rest should be from ten to eleven o'clock, and at this time aperient or alterative medicines may be taken. The sleeping apartment should be light and airy; no more bed-clothing should be permitted than sufficient for warmth, and a hair mattress should always be slept upon, even if a feather bed be placed beneath it. By a person in weak health, eight hours sleep is certainly required for the renovation of mind and body.

The question of medicines next presents itself for our consideration. The treatment which we have already mentioned may be referred to, and we must remember that we have to pursue a mild and persevering plan, and from such alone can satisfactory results be obtained. Mild alteratives will be desirable, for there is always more or less derangement of all the functions of the liver, and even moderate aperient action will be requisite. As an alterative, F. 1 or 2 are useful in chronic dyspepsia, and F. 31, 32, 34, 36, 37, 38, are mild aperients. Any of the tonic and stomachic medicines already mentioned, which seem best adapted to the case, may also be resorted to. Where the liver is peculiarly affected, rendering the bowels torpid and irregular, a course of taraxacum or dandelion will be found undeniably useful. Where the skin is dry and irritable, or is affected with an eruptive tendency, a course of sarsaparilla is most advantageous, and where there is any lurking tendency to pulmonary affection, a course of cod-liver oil cannot fail to be beneficial.

EARACHE.

Some people, especially children, are much troubled with this complaint on taking cold. It depends on natural irritability of the interior of the ear, and sometimes the stomach and constitution are out of order. Earache mostly depends on inflammation of the lining membrane of the ear down to the drum, and the outer part is often red and tender. An abscess sometimes forms, and when it breaks and discharges, relief is afforded. Warm fomentations and poulticing, syringing the ear with warm milk and water, mustard poultices behind the ears, and aperients, are our remedies. After an abscess has broken, and discharged freely, the ear must be kept very clean, and a syringe of a slightly astringent lotion, such as ten grains of sulphate of zinc to a quarter-pint of rose-water, be injected lukewarm twice a day. This is also a good application if the interior of the ear be ulcerated. A little of the combination, one drachm of balsam of Peru and three drachms of fresh ox-gall, introduced into the ear on cotton wool, is also said to be a good application. (*See DEAFNESS.*)

EPILEPSY, OR FALLING SICKNESS,

Is a peculiar form of convulsive disease, returning at uncertain intervals. There is loss of sense and voluntary motion, and the attack comes on suddenly and unexpectedly, though often preceded by some peculiar sensation. During the paroxysm, in which the general convulsions are often fearful, there is foaming at the mouth, and subsequently the patient often falls into a profound sleep. Epileptic fits usually affect adults, and rarely attack young children. Any constitutional irritation, or great temporary excitement, may occasion epilepsy. Disease of the brain and its coverings also gives rise to it, and when

once instituted, the fits are apt to recur with more or less frequency. There can be no difficulty in distinguishing epilepsy from apoplexy or hysterical fits.

Treatment.—If epilepsy depend on disease of the brain, it must be treated by counter-irritation, with blisters and setons, by mercurial alteratives, and by sedatives. If it be idiopathic, or a mere nervous disease, tonic remedies must mainly be relied on. Oxide of zinc has had great repute, and may be given in doses of three grains, combined with extract of gentian, three times a day. Ammoniac of copper has been famous as a remedy; half a grain may be taken three times a day, in the form of a pill, with a little extract of henbane. Valerian, cotyledon umbilicus, and numerous other medicines have in turn enjoyed repute. I believe that the nitrate and oxide of silver are by far the best and most successful remedies, especially the latter. The oxide of silver may be given in the form of pill, in doses of from half a grain to one grain, conjoined with two grains of extract of henbane, three times a day, and in the majority of cases will be found serviceable. The regulation of the bowels, abundant exercise, and the improvement of the health by cold shower-baths, and every other means, are also to be carefully observed in the treatment of epileptic cases.

ERUPTIONS OF THE SKIN.

Under this head may be included all rashes not specially treated of, but we shall refer rather to general character and causes than to any minute description. A rash may consist of red spots, pimples, mattery heads, or a scaly state of surface. The slight and common ones generally depend on some stomach derangement or constitutional disturbance, and a little aperient action and regulation of diet will speedily subdue them; such, for example, is the pimply rash round the mouth, and the mattery heads which appear on the surface of the body. A course of cooling medicine may in some cases be required, and sometimes the lengthened administration of alteratives may be necessary. The mattery and scaly eruptions of the scalp are often exceedingly difficult to cure, but, with the addition of aperients, may generally be subdued by local means. The scaly or scurfy rashes of the body, and some of the pimply and mattery ones, often require the persevering use of constitutional treatment, and much skill and judgment are necessary, even on the part of the medical man, for their eradication; such, for example, are those known by the names of psoriasis, leprosy, lichen, impetigo. The study of skin diseases has of late years been more carefully cultivated, but we have no English names for the different varieties, and they are known only by their technical terms.

Treatment.—Many chronic eruptions of the skin may often be benefited by the following alterative combination:—Take of blue pill, twenty grains; compound extract of colocynth, forty grains; camphor, six grains; tartarized antimony, one grain: to be divided into sixteen pills; one or two to be taken every night for three or four nights successively; to be stopped for a like period, and then again renewed. If the bowels do not act gently under the influence of these, a teaspoonful of Epsom salts and carbonate of magnesia, mixed in equal proportion, may be taken each following morning. One pint of the compound decoction of sarsaparilla should also be taken in the course of the day, or a proportionate quantity of any concentrated form. The alterative solution, F. 5, is often of considerable service. Another simple medicine, often of much utility, especially when the skin is dry and harsh, is composed of two ounces of lenitive electuary and a half-ounce of flowers of sulphur, well mixed; one teaspoonful to be taken night and morning. The cerate of acetate of lead, or the compound cerate of lead, are excellent soothing applications in eruptive complaints, and when a stimulating application is desirable, weak citrine ointment may be made use of. We must remember that stomaehic and general

constitutional derangement are the main sources of cutaneous eruptions, but we must also carefully bear in mind the local appliances for restoring the healthy action of the skin, such as daily warm and cold sponging, warm baths, vapour baths, and also the essential necessity of regulated exercise. In cases of skin diseases, where it is desirable to administer mercury to any great extent, or to prescribe either the iodide of potassium or arsenic, which are both exceedingly valuable remedies, it must only be done under the superintendence of medical men.

ERYSIPELAS, OR ST. ANTHONY'S FIRE.

This consists of an inflammation of the skin, characterized by a diffused redness of the surface and slight tumefaction, attended with heat and burning pain, and having a tendency to spread. The skin sometimes blisters, but more frequently dries and shrivels off, and, in severe cases, matter may form beneath the surface, constituting a kind of superficial abscess. The disease is most apt to affect the head and face, and is certainly there the more dangerous. Erysipelas may come on spontaneously, or it may be the sequence of some injury. Cold is considered a common cause of the disease; but unless there be some constitutional derangement, especially disorder of the liver, stomach, or bowels, it cannot well occur. Where the erysipelas is slight and not extensive, there is little fever or constitutional disturbance, and the symptoms soon subside. In the more severe forms, shivering, languor, restlessness, pain in the limbs, headache, loss of appetite, nausea, furred tongue, thirst, heat of skin, quick pulse, and delirium precede and accompany the erysipelatous attack. The inflammatory tendency may be intense, when the disease is called phlegmonous erysipelas; but most often it tends to assume a low type, and we must be on our guard against being misled by the symptoms of excitement, which are fallacious. The internal parts, especially the throat, are apt to become implicated by erysipelas.

The treatment should be as follows:—An emetic, F. 87, should be taken in the first place, and after its operation, as soon as the stomach has become quiet, five grains of blue pill, or two to five grains of calomel, according to the nature of the attack and the strength of the patient, should be given, followed in a few hours by the aperient draught F. 44, 68, 70; and if it does not act, it must be repeated in four or six hours. Where the patient is weak, or the bowels have been disturbed previously, it will be better to resort to a warm evacinative aperient, such as F. 42, 43, 45, or even a little castor oil. If the attack be mild, it is probable that the above amount of treatment will suffice, and that all unpleasant symptoms will subside. It may, however, be otherwise, and the further management of the case becomes of serious importance. Under no circumstances can bloodletting be desirable, but if the inflammatory symptoms run very high, a repetition of aperient medicine, such as before given, or the pills F. 36, 37, 38, may be used from time to time. Saline and antimonial medicine, such as F. 101, 108, 111, may be taken at intervals of four hours. The diet should be spare, and of mild unirritating character. But when the disease occurs in a weak and shattered constitution, the treatment of the second stage of erysipelas is very different. The irritation may run high, but the eruption tends to assume a dark colour, the pulse has no real strength, there is low muttering delirium and excessive restlessness, the tongue is dry, and the bowels are generally relaxed. In such cases an early resort to tonic and stimulating treatment is necessary: nourishment must be given freely, in the shape of broth, beef-tea, yolk of egg, and also wine, beer, and brandy must be administered according to circumstances. As medicines, bark, quinine, and ammonia are our remedies. F. 159, 161, 162, are good forms, or the

ammoniacal saline, F. 104. In these cases the use of sedatives, to allay the nervous excitement and procure sleep, is exceedingly advantageous, for which purpose opium may be given, or F. 99 or 100, being repeated as often as requisite. If the brain or any internal organ become affected, sinapisms or blisters must be used.

We have now to speak of the local application for erysipelas. Flour is very useful for this purpose; the lotion F. 123 may be used, and that without any fear of the cold being hurtful. When the case is severe, the caustic solution, F. 137, should be freely applied with a camel-hair brush over the diseased surface and beyond the margin thereof, following the course of the inflammation, every four hours. In cases of phlegmonous erysipelas, where the tumefaction and distress is considerable, free incisions should be made with the surgeon's knife to relieve the tension of the parts, and to permit the escape of matter.

FAINTING, OR SYNCOPE.

This is a kind of fit, which depends on weakness, exhaustion, or oppression from any cause. It may be occasioned by indigestion, or may be connected with internal organic disease of the heart, &c. It comes on with a sense of oppression about the region of the heart, difficulty of breathing, failure of sight, confusion in the head, pallor of the surface, and finally all power of motion and sensation are lost. On recovering from faintness, clammy perspiration breaks out over the surface of the body, and there is often sickness. Our treatment must consist in placing the patient in the horizontal position, loosening the dress (especially tight stays), admitting cold air freely, and dashing cold water over the face and hands. Smelling salts or sal volatile may be applied to the nostrils at intervals for a short while. When consciousness begins to return, a little cold brandy and water, or wine and water, or half a teaspoonful of compound spirit of æther or sal volatile may be administered in water. If the tendency to faintness continue, one teaspoonful of the ammoniated tincture of valerian may be taken in a little water. If the syncope continue a long time, sinapisms should be applied over the region of the heart and to the calves of the legs, and frictions over the surface with F. 135 may be resorted to. Deranged stomach or debility of any kind must, of course, have appropriate treatment.

FEVER

Consists in excitement of the vascular system. It is generally a symptom of some inflammation, as of the brain, the lungs, the stomach, and under which heads we shall refer to it. It may, however, be a disease in itself, as common fever from cold, stomach, bilious, nervous, typhus, or intermittent fever, which we refer to separately. When fever is acute and violent, it is indicated by increased frequency of pulse, heat and dryness of the skin, general pain over the surface, and diminution of the secretions; and the treatment should be of lowering or antiphlogistic character, such as bleeding, purgatives, antimonials, salines with low diet. Fevers, however, vary greatly in their nature and the treatment necessary, and it requires all the judgment and skill of an experienced medical man for their recognition and management. Many assume a low character, and require stimulation and support in lieu of lowering treatment. There is no instantaneous cure for fevers; we may modify and abate them, but we cannot, as a general rule, arrest and end them short, except so far as by removing the cause. But in this respect ague cannot be regarded as true fever.

BILIOUS FEVER.

Under the head of bilious complaints we have spoken of the origin of bilious fever, and we must refer back for the treatment of the first stage. As we have said, the complaint then depends on irritation and excitement of the liver, and undue secretion of bile. As long as the secretion of bile presents an unhealthy character, the motions being dark and offensive, so long the use of alterative doses of mercury, three to five grains of blue pill, must be continued with each saline dose, as already mentioned, or if the symptoms be not severe, merely once or twice in the twenty-four hours; and if the bowels be not much relaxed, or the sickness urgent, no opium should be given. There is often much distressing depression in the course of, and at the latter part of bilious fever, and for this we may prescribe the ammoniacal saline, F. 104. If the symptoms be very severe, with much irritability of the stomach, a blister applied to the pit of the stomach may be useful. In the first instance the diet should be decidedly of the lightest character, comprising barley-water, toast and water, milk and water, and weak cold beef-tea: as the fever subsides, however, the diet should become more stimulating and nutritious. Arrowroot, with a little brandy, well-toasted bread saturated with good broth, small quantities of bread and meat, such as mutton-chop, also chicken, light egg puddings, will soon be desirable; but we must bear in mind that the food must be of simple character, and supplied in small quantities at short intervals.

GASTRIC OR STOMACH FEVER.

This is peculiarly apt to affect children. It depends on a deranged state of the stomach and bowels, and the secretions connected therewith. There are often worms. The fever is not usually of violent character, it is often worse towards night, and may be somewhat tedious. The skin is dry and harsh, the tongue is usually spotted, the breath is foul, the water and motions are high-coloured and offensive, and the bowels are uncertain in their action. A young child, say under three years of age, should have from two to three grains of grey powder every night, and a sufficiency of a mild aperient, such as salts and senna, or rhubarb and magnesia, or F. 42 or 49, should be administered every morning, so as to relieve the bowels twice or three times in the day. A little of the medicine F. 101 or 119 may be given two or three times during the day. The main treatment, however, consists in the regulation of the diet, which should be light and nutritious, the food being taken at regular intervals, and on no account of rich, heavy, or stimulating character.

If the complaint occur in an adult, a similar line of treatment should be adopted. From four to five grains of blue pill every night, and a Seidlitz powder the following morning, two or three times repeated, will do much good, and F. 101 and 102 may be useful. The necessary revision and reduction of diet must on no account be omitted.

INFLAMMATORY FEVER

Is that state of excitement which accompanies acute inflammation. It makes its approach with lassitude, chilliness, and pains over the entire surface of the body, especially in the back and head, and there may be much restlessness. Hot flushes then come on, which are succeeded by general heat and dryness of surface; the face becomes suffused, there is throbbing of the temples, oppression of the breathing, nausea, and excessive thirst; the tongue is covered with a thick white fur; the bowels are costive; the urine is red and scanty; the pulse is quick, full, and hard, and there is often delirium. After a shorter or longer space of time, from twenty-four hours to a week, the symptoms may subside, when the skin becomes moist, the pulse slower and softer, the tongue cleaner,

and the urine throws down a copious sediment. If there be any local inflammation, either external or internal, its subsidence or termination will accompany and keep pace with that of the febrile state. After inflammatory fever has continued some time, the symptoms may be exchanged for those of debility, and we may have typhus or nervous fever to deal with.

Treatment.—It is our object to reduce the excitement and violent action of the circulation, and for this purpose the abstraction of from ten to sixteen ounces of blood may be decidedly advisable; sufficient should be taken at once to produce decided effect on the system, reducing the pulse, and perhaps producing some degree of faintness; a repetition of the bleeding is rarely requisite. Free aperient action should then be set up, which may be done with a dose of calomel or blue pill, or F. 4, followed by medicine F. 68 or 70, a few hours subsequently, and if it is desirable to keep up aperient action, F. 46 may be useful, and as an occasional aperient, the compound colocynth pill (*see ALOES*), or F. 36, 66, may be resorted to. Antimonial salines may be very desirable, when F. 76, 110, 111, may be adopted according to the circumstances of the case. If the stomach be very irritable, the antimony may be omitted, or we may prescribe the simple salines F. 101 or 102, with such additions as seem proper. The treatment may require to be greatly modified according to the nature of any local inflammation, which may accompany the fever. The diet must of course be low, and all solid food should be abstained from. Gruel, arrowroot, or very weak broth, must be the extent of it where the fever is high. Toast and water, barley water, and imperial may be drunk, and when milk agrees, milk and water, or remnet whey, will at once afford sufficient nourishment and assuage thirst. Ventilation and cleanliness must be carefully attended to, and if the heat of surface is very distressing, the skin should be sponged over with cold water. If there be any acute internal inflammation, we must beware of any sudden change or lowering of temperature, and tepid instead of cold sponging should be resorted to.

NERVOUS FEVER.

This is often a complaint of tedious and distressing character. There is little heat of skin, a quickened pulse, headache, loss of appetite, restlessness, sleeplessness, and general irritability; the stomach and bowels may be in apparent good order. Nervous fever is commonly caused by annoyance, anxiety, or distress of mind; therefore, the treatment often requires to be rather mental than bodily, and quietude, change of scene, and the exertion of moral resolution, will often prove most essentially curative. Medical aid may, however, be required; one of the salines F. 101, 104, or 107, may be resorted to. If there be much restlessness and loss of sleep, the anodyne F. 99 or 100 may be taken at bedtime, and as subsequent tonic remedies, F. 163 or 165 are available. The preliminary use of aperient medicine, such as the compound colocynth pill of F. 44, 45, or 68, must not be omitted, if the stomach and bowels are out of order, and even a dose of blue pill may be requisite.

REMITTENT FEVER

Is chiefly an infantile complaint, and we will speak of it as such; but it may occur in older children, and even in adults, as a variation of other kinds of fever, where there is any particular irritation in the system, especially in connexion with digestive derangement, and sometimes with affection of the chest. It is constituted by slight or severe febrile attacks, with remissions or irregular intermissions, and the mode of treatment must be according to the cause and general character.

TYPHUS FEVER

Is generally a disease of great danger and lengthened duration. Its nature is undoubtedly contagious, though it may originate in want, filth or malaria, and so prevail as an epidemic. The first symptoms of typhus fever may vary considerably; there may be much vascular excitement, when the complaint puts on the character of inflammatory fever, but it soon assumes a lower form. In very mild cases there may be merely general oppression of the system, with some failure of the muscular and nervous power, but otherwise there may be little disturbance; the pulse may be rather weak, the tongue may be clean, probably rather too much so, the temperature of the body may be little altered, and the secretions may apparently be natural, which state may continue many days, and leave us very doubtful whether there is really anything the matter. In a severe and well-marked case, the access of the disease is indicated by chills, general pain in the head and limbs, languor and lassitude, giddiness and restlessness, nausea and vomiting. Then we have heat of skin, much thirst, delirium, abdominal tenderness, and probably diarrhœa. As the general prostration increases, we have stupor; the tongue and edges of the gums present a dry, brown fur; the patient lies on his back, gradually sinking towards the bottom of the bed; the urine and motions are passed involuntarily; there is twitching of the tendons, picking of the bed-clothes, and constant hiccup. During some part of the disease there may or may not be an eruption of rose-coloured spots on different parts of the surface of the body. Where there is great prostration, and a predominance of nervous symptoms, the case is sometimes called low nervous fever, and where the febrile symptoms run high, the delirium is ferocious, the countenance assumes a dusky hue, the tongue is almost black, there is vomiting of dark bilious matter, and the evacuations from the bowels are dark and very offensive, then the fever is sometimes characterised as putrid. Typhus fever seems to have a determinate duration from ten days to six weeks.

The treatment of typhus fever must on no account be depleting or lowering. We must remember that the mass of the blood is in an altered and poisoned state, which renders the power of the entire system deficient, and it is to the restoration and renewal of the healthy state of the blood that we have to look. Quite at the outset of typhus fever an emetic, F. 87, may be administered, and then a little calomel, or a few grains of blue pill, followed by an aperient dose, such as F. 44 or 68, with a view to remove vitiated secretions, and promote healthy action. For the same purpose, the alterative pills, F. 1 or 37 may be prescribed each night or each night and morning, and may be accompanied by the salines F. 76, 101, or 111, according to circumstances. The effervescent mixtures F. 102, 104, will soon be found available, and as the case progresses, ammonia, mineral acids, bark, quinine, as in F. 159, 161, 162, must be freely made use of. If there be much nervous irritability and excitement, sedatives, such as F. 15, 16, or merely a little solution of morphine, may be given at bedtime. Moderate diarrhœa is not an unfavourable symptom as to the ultimate result of fever, but if it be violent and distressing, the injection of a little thin starch, with thirty or forty drops of laudanum occasionally, will afford great relief, and mustard poultices over the abdomen are often of service, and will also tend to rally the patient where there is great depression. Any tendency to confinement of the bowels, which is rare, must be carefully obviated by the mildest aperient, such as castor oil. Cleanliness is of the highest importance, both as to the room, the clothes, and the person of the patient. Tepid or even cold ablution should be resorted to twice daily, the surface of the body being well sponged over; vinegar and water may sometimes be substituted with

advantage. The patient must be kept cool, and without much load of bedclothes. The room should be quiet, well aired, and its purification with Burnett's disinfecting solution of chloride of zinc carefully attended to. During the worst stage of typhus fever, everything depends on our supporting the patient, and the free administration of wine, brandy, strong beef-tea, jellies, &c., at short intervals, is absolutely requisite. F. 125, 126, are available. The extent to which the administration of nutrition and stimulants must be carried will depend on the symptoms and the effect produced, but the feeble and flickering flame of life may often be maintained and renewed by assiduous care and nursing, when otherwise it must inevitably fail. A patient in the delirium of fever should always be carefully and constantly watched, lest he do himself any injury. Bed-sores are very apt to form during the long continuance of fever, especially in the back, owing to pressure: should there be any show of inflammation coming on, the part must be carefully supported and protected by soft cushions, &c., so as to avoid the pressure; the same must be done if a sore forms, when it must be kept very clean, and dressed twice a day with calamine ointment. The mischief of these sores often delays recovery, and indeed may occasion a fatal result when extensive.

WORM FEVER.

A regular attack of fever, often of remittent character, sometimes attends the presence of worms, generally the common or round ones, and the crisis or turn for the better is usually indicated by the evacuation of the animal, either by the mouth or the bowels. The treatment is that of ordinary fever, only that when we suspect the cause, we must resort to aperients more freely.

YELLOW FEVER.

This is an acute and violent disease of inflammatory character. In the first instance it resembles a severe attack of typhus in its first stage. It is then characterized by the skin assuming a yellow tint. There is a sense of burning heat in the stomach, and unrestrainable vomiting of brown, greenish, or even black matter; the patient soon becomes unconscious, and falls into a state of violent delirium.

The treatment of typhus should be resorted to for the most part, and calomel should be given in doses of one grain with every dose of saline medicine, of which the Seidlitz powder constitutes a very excellent form for the purpose. Quinine may be serviceable at an early period of the disease, yet we must beware of using means of too stimulating a character.

FLATULENCY

Consists in the collection of a large quantity of gas or air in the stomach or bowels, and is very irksome and distressing. It is occasioned by indigestion, hysteria, or hypochondriasis. It may depend on the fermentation of some unwholesome article of diet, but most generally the air is secreted by the lining membrane of the stomach and bowels. If an excess of food or that which is indigestible be taken into the stomach, or that organ be unduly weak in reference to the digestion of ordinary nourishment, the irritation will occasion flatulency, and in some peculiar nervous affections the irritation seems to set up of its own accord, and the formation of gas may be immense. Bilious and gonty states are often attended by much flatulency.

Treatment.—We must look to the cause in order to arrive at the best mode

of treating this complaint. To strengthen the stomach must be our object in cases of indigestion, and to improve the tone of the system generally is most desirable in nervous cases. F. 145 is an excellent pill for promoting digestive action; also F. 9, 147, or 150 may often be used with great advantage. In nervous flatulency, F. 22 or 23 are available, and where a case is very distressing, F. 21 may be given. In these cases we have to strengthen the general nervous system. For this purpose we may resort to the sesquioxide of iron, in doses of twenty grains, two or three times a day, in water or treacle; or the tincture of sesquichloride of iron, in doses of twenty drops, three times a day, in a little water. The oxide of silver pills, F. 12, will often have the best effect. Attention to diet is of much consequence in counteracting flatulency; it should be plain and wholesome, avoiding all vegetables except potatoes; very little sugar is desirable, and fermented liquors are altogether objectionable. A little cold weak brandy and water is the best substitute.

GALL-STONES.

These are substances consisting of animal or earthly matter, formed in the passages from the liver to the gall-bladder, or in the gall-bladder itself. Unnatural action of the liver causes the formation of gall-stones, which concreate from the unhealthy bile. A sedentary life and undue indulgence in alcoholic fluids predispose to the disease. It is the passage of the gall-stones to the gall-bladder, or from the gall-bladder to the small intestine, that constitutes the immediate mischief. This is indicated by intense but intermitting pain at the pit of the stomach and towards the right side, darting through to the back. This generally comes on suddenly, and often abates as speedily, and the duration and intensity of the pain is liable to much variation. There is considerable local pain on pressure; there is nausea, and often uncontrollable vomiting, with much restlessness and anxiety of countenance. The bowels are usually confined, and there is extreme flatulence. When the passage of bile is completely impeded, the motions are clay-coloured, and if the stoppage be of long continuance, the person will become jaundiced. The pulse is usually unaffected, and it is by this that an attack of gall-stones is usually distinguished from abdominal inflammation.

Treatment.—This should consist in endeavouring to promote the passage of the gall-stone, and to allay the pain. We must first secure the action of the bowels. This is to be effected by placing from two to five grains of calomel dry on the tongue, and two hours after we may give one ounce of castor oil, or F. 68, 70, or the pills F. 66 may be given, and followed up with Seidlitz powders, or teaspoonful doses of Epsom salts, or F. 46, at short intervals. If these means be insufficient, or if the stomach be incapable of retaining medicine, then one or two pints of warm gruel, mixed with two ounces of castor oil, should be thrown up as an enema. Hot fomentations should be assiduously applied. When the bowels have acted freely, we must further endeavour to abate the spasm and pain by the administration of F. 15 or 16, at intervals of one or two hours, according to the severity of the attack, or we may give, at like intervals, powders containing one quarter-grain of acetate of morphine, and the same of tartarized antimony, with the addition of two or three grains of powdered sugar or gum, and from which I have seen great advantage derived.

The prevention of attacks of gall-stones is difficult, but much may be done by attention to the general health. Blisters are useful if there be continuous tenderness and uneasiness, or the antimonial ointment F. 140 may be used. The electuaries F. 39, 40, are often beneficial as alterative laxatives. The best curative treatment to prevent the formation of biliary calculi consists in

the administration of from three to five grains of blue pill twice a week, or one of F. 1 every night, combined with the use of the tonic and aperient, F. 47, twice a day, between meals. If more active aperients be required, F. 67 will exert a searching and powerful action, but milder means are usually preferable. Plenty of exercise should be taken. The diet should be plain, excluding all rich and oily food, and all fermented and alcoholic liquors must be carefully avoided.

GOUT.

This is a peculiar constitutional disease, which manifests itself in a kind of inflammation of the smaller joints, while, on the other hand, rheumatism attacks the large joints; but, in that respect, gout may almost assume a rheumatic character, or even enter into combination with rheumatism, to constitute what is termed rheumatic gout. Gout may also affect the internal organs, being transferred from the joints, and then it is designated as retrocedent. Common or regular gout is characterized by swelling and bright redness somewhat suddenly affecting the joints of the hands or the feet, especially the ball of the great toe. It is commonly preceded by some general feeling of uneasiness and chilliness, and there may be some stomach derangement, manifested by flatulence, acidity, and irregular action of the bowels. Where there have been frequent attacks, the premonitory symptoms of constitutional oppression and irritation may become more marked. It is in the evening and during the night that the attack generally commences. After a little preliminary aching in the part, the pain suddenly becomes acute, assuming a lancinating or burning character; it is sometimes compared to the gnawing of a dog, or to the wrenching of a bone out of its socket; but at first there is not much external inflammatory appearance, though the part will be excessively tender. Feverish symptoms then come on, with much restlessness, and there will be heat of skin, furred tongue, nausea, &c., to a greater or less degree. As heat, redness, and swelling gradually become more manifest in the affected part, the acute pain generally subsides somewhat, and the patient breaks out into a gentle perspiration. After some time, from twelve to twenty-four hours, the paroxysm may again return, and continue to recur for some days, the disease probably attacking other joints in turn. In mild attacks of gout the symptoms may come on gradually, reaching their height in forty-eight hours, and then slowly subsiding, one joint only being affected.

In IRREGULAR GOUT the disease is more uncertain in its symptoms and of more wandering character. The pain may be less acute, but the attack may be more lingering, and will generally leave much more impression on the constitution. There is often a much more complicated derangement of the digestive organs, greater nervous irritation, and the circulation is languid and oppressed.

The essential cause of gout is in the blood, and may be owing, firstly, to rich and luxurious living; secondly, to an indolent or sedentary life; thirdly, to over-indulgence in acid or fermented liquors. Anything which tends to derange the balance of the nervous, vascular, or digestive systems may serve as an exciting cause, such as a chill, suppressed secretion, anxiety, costiveness, or change of diet. That the disease may be hereditary we well know; thus the sins of the parents are visited on the children, and in the original organization the blood formation has a morbid tendency to gout. But I must believe that more gout is owing to acquired predisposition than to that which is hereditary, and that very many gouty invalids have themselves been far from idle in perpetuating the causes of what they designate their *family misfortune*.

Treatment.—Whenever there is gout, a poisoned state of the blood exists,

and in the arrested and imperfect state of the functions of the skin, liver, and kidneys, the paroxysm originates. In an acute case of gout, therefore, we must actively endeavour to re-establish the functions in question, and by acting promptly we may often cut short the attack. If the patient be robust, F. 4 should be given immediately, and in four or five hours the aperient F. 68 or 70. After the bowels shall have been relieved, the colchicum medicine, F. 112 or 113, may be resorted to at intervals of four hours, and, if necessary, the pills F. 36 or 66 can be made use of from time to time to maintain sufficient aperient action. When the attack is milder, or the patient weaker, two pills composed of blue pill and James's powder, each five grains, should be taken immediately, and subsequently the draught F. 44 or 45, and the milder forms of the colchicum mixtures already mentioned, will then be available. As soon as a decided impression is made—and this is often indicated by increased action of the skin, viz., perspiration; by increased action of the kidney, causing the urine to throw down a red sediment; by increased action of the bowels, amounting to diarrhœa; or by irritation of the stomach, causing constant nausea and even vomiting—then should all further administration of colchicum be abandoned, and the saline mixture F. 103 or 105 may be used, taking care that the liver be kept acting with a little blue pill or the compound calomel pill, or F. 3 or 37. When the pain is great, an anodyne may be requisite at night, and F. 18 or 99 may be given, or from a quarter to a third of a grain of acetate of morphine, with three grains of James's powder, or even the morphine alone, dissolved in a little camphor mixture. Debility may be relieved and convalescence promoted by such medicines as F. 146, 149, 150; but the maintenance of a free and healthy action of the bowels must on no account be neglected. In the first instance the diet should be low; tea or gruel and dry toast, weak broth and beef-tea, &c.; roasted apples, grapes, oranges, are not objectionable. As soon as the pain and feverish symptoms are abated, the feeding may be improved, and we may soon allow a little mutton, poultry, or fish once a day, and a little weak brandy and water or bitter ale as soon as the stimulus can be borne; for it is of high importance to maintain the tone of the stomach, and not let it become debilitated.

When occasional smart attacks of gout occur habitually in persons of good habit of body, from some little excess of living, without occasioning much constitutional distress, it is surprising how soon such attacks may be arrested and cured by the use of the pills F. 67, one to be taken every four hours until very free purging is induced, when the relief will be simultaneous; plenty of warm mild diluent, such as tea, broth, gruel, &c., should be taken when once the operation commences. A moderate administration of these pills will often ward off the approach of a gouty fit.

Irregular or chronic gout requires much more nicety in its treatment than the common form, and the most may be done by way of prevention during the intervals of attack. This form of gout occurs generally in weak and exhausted constitutions, and is apt to shift very much, showing itself for a few hours in one part, and then disappearing suddenly to manifest itself elsewhere, perhaps the very next day. It not unfrequently affects the larger joints, and even the internal organs. In such cases, medicines like F. 118 may be proper, when there is stomach derangement, and the secretions are inert. If there be a feverish state, a little alkaline saline, such as F. 46, 105, may be desirable, or seltzer-water taken frequently, with a small proportion of brandy if there be much constitutional depression. Where there are bilious symptoms, or the secretion of the liver is obviously deficient, it must be corrected by the use of F. 2 or 3. Where an active aperient is necessary, the pills F. 33, or the medicine F. 42, 43, 44, or from half to a wineglassful of compound decoction of aloes, are available from time to time.

The local application which is most useful in all kinds of gout, and will afford the greatest amount of relief, is the common soda used in washing, but it requires to be nicely and carefully applied. The part affected should first be well bathed or soaked with warm water, and then slips of flannel wrung out in a warm solution made by dissolving one ounce of soda in a quart of boiling water, should be applied evenly and smoothly round the joint, being kept wet constantly with the soda solution until relief is afforded. A dry piece of flannel should envelope the wet bandages. It is remarkable how much comfort may be derived from this simple application, which is far superior to any other.

The prevention of gout is an important matter for our consideration, especially when hereditary predisposition warns us that the morbid action may be readily aroused. Diet and regimen are of the greatest service in attaining our object, and where there are frequent visitations, the intervals may thereby be greatly prolonged, and the paroxysm lightened. It is not by low diet, nor by worrying the system with powerful medicine, such as colchicum, that we are to counteract the threatened mischief, but by a regular mode of life, and by the observance of those rules which experience must suggest, though too often in vain. The medical treatment for the prevention of gout is exceedingly simple: we must secure the regular action of the bowels, and promote the secretion of the liver, skin, and kidneys, whenever they become faulty or deficient. Moreover, we must carefully maintain the tone of the stomach whenever it seems to fail. In the shape of habitual aperients, the pharmacopœial pills, mentioned under the head of aloes,—viz., compound rhubarb pill, compound colocynth pill, and aloes and myrrh pill, can be recommended; also the pills F. 29, 30, 32, 34. The compound decoction of aloes is a good fluid aperient, also F. 42, 44, 45, 46. Where an alterative is requisite, the compound calomel pill may be given, or four or five grains of blue pill, with one grain of capsicum at bedtime, and these must be followed up by one of the fluid aperients above-mentioned in the morning. The combination of an alterative with an aperient may be desirable, as in F. 36, 37, 38. The conjunction of stomachic and aperient action may be desirable, which we find accordingly in F. 106, 147, 149. F. 145 is a simple form of stomachic and alterative pill, which in delicate stomachs, when taken twice or thrice a day, will often serve to maintain aperient and digestive action. The diet should be good, but too large a proportion of animal food should not enter into its composition, neither should it be too rich, nor too highly seasoned; meat should not in any shape be eaten more than twice a day. Much fatty matter should not be taken, and the use of sugar should be moderate. The hours of meals should be regular. When there is not constitutional want of strength, or decided digestive debility, it would be well if alcoholic, vinous, and other fermented liquors were altogether avoided, but this is rarely permitted by our peculiar social habits, even where the above excuses do not exist; at any rate, strong ale, stout, madeira, port wine, champagne, the acid French and German wines, and the various home-made wines, with the exception, perhaps, of that of ginger (when thoroughly good and sound), ought all to be avoided. A little good sherry, diluted or otherwise, weak brandy or gin and water, pale bitter ale, good sound porter, but not too strong or heavy, with seltzer water, ought to constitute the usual articles of beverage. Regular exercise should be taken on horseback, in carriage, or on foot, according to circumstances, avoiding over-fatigue, occasions of cold, especially sudden changes of temperature. The clothing ought to be regulated according to the season, but flannel, thick or thin, ought always to be worn. Free ablution, with cold water or sea water, of the entire surface of the body, followed by friction with a coarse towel, should be used every morning, and even a cold shower-bath, when it can be borne without disadvantage.

Change of air is occasionally desirable, and even a resort to Leamington, Cheltenham, Harrogate, &c.

RETROCEDENT GOUT does not usually supervene on common acute attacks, but is usually connected with the chronic form of the disease in worn-out constitutions, which have been shattered by long continuance of the malady. During a somewhat sharper attack than usual, the local symptoms disappear somewhat suddenly, and some internal organ will show itself affected. If the stomach and bowels, for example, be attacked, then there is much pain, nausea, and constipation. A large dose of calomel and opium, five grains and two grains, should be given immediately, and repeated every hour or two until relief is obtained; the bowels must then be got to act with F. 44 or 68, repeated if requisite, or if the stomach be very irritable, an enema of two ounces of castor oil, one ounce of turpentine, and one quart of thin gruel may be made use of. The ammoniacal saline, F. 104, may be used, and if there be much constitutional depression, stimulants may be given, such as F. 125, 126. The abdomen should be fomented, or mustard cataplasms applied, and the feet soaked in mustard and water. Where the head is affected, the calomel should be given without the opium, and the patient often requires cupping and blistering at the nape of the neck. Aperient action should be set up, and the mustard foot-bath or mustard poultices to the calves of the legs are requisite.

GRAVEL.

This is an exceedingly painful complaint. It depends on the formation of stony matter in the kidney, the urine being unable to retain the material in question in solution. Where the stony matter collects into one or more larger bodies, it constitutes stone; but the formation and growth of this, after the first stage, goes on in the bladder. There may be other sediments from the urine besides gravel, according to the peculiar state of system which exists, and with these it must not be confounded. The pink sediment, which is not gravel, usually indicates some inflammatory or irritable state of the system; the white flocculent deposit generally depends on some excitement of the kidneys or bladder, which may be sympathetic with an unhealthy state of the mucous membrane lining some other organ. Some amount of deposit in the urine is by no means incompatible with health.

Red gravel, varying from light pink to a brownish hue, is the commoner kind; it depends on undue acidity of the secretion of the kidney, and is often connected with a gouty tendency. The urine should always be more or less acid when fresh, but if unduly so it can be shown by what is termed *litmus paper*, which, on immersion, will be converted from a deep blue into a bright red. The symptoms of gravel are, pain on one or both sides of the loins, numbness of the thighs, frequent inclination to make water, which is generally high-coloured, and there is nausea and vomiting. The general treatment should consist in a warm bath and hot fomentations; a mild aperient, such as castor oil or F. 68, should be administered, and when the bowels have acted, if there be much pain, the anodyne F. 15 may be given. Emollient fluids, such as linseed tea or barley water should be drunk freely. The specific treatment of red gravel, after the first violence of the attack, and when the presence of the substance in the urine demonstrates the nature of the complaint, consists in the administration of alkaline medicines, such as F. 8, with the occasional use of aperients, such as the compound colocynth pill and alteratives, such as blue pill and the compound calomel pill, or F. 36, 37, 38, according to circumstances, and a scidlitz powder occasionally is not objectionable. When the stomach is weak, recourse may be had to such medicines as F. 146, 149. In cases of red

gravel, a rich stimulating diet is highly objectionable, and all strong fermented liquors are very injurious. Plenty of exercise should be taken, but cold and damp must be carefully avoided.

White gravel depends on an unnatural action of the kidneys, and the urine will then be alkaline, *litmus paper* remaining unchanged when moistened therewith. The disease is most apt to occur in weak or broken-up constitutions, and there is usually much derangement of the general health. It may be brought on by an indolent and sedentary life, or by one of excessive gaiety and dissipation; and it is not unfrequently the result of an injury to the spine. The general treatment of an attack must be similar to that directed for red gravel, but our special remedies must be of acid instead of alkaline nature. The medicine F. 6 should be taken in infusion of buchu, infusion of hop, or compound infusion of gentian two or three times a day, and F. 161 may be used where there is much debility. Where there is much pain and irritation, opiates at bed-time may be requisite, such as F. 99, 100, or ten grains of Dover's powder. Mercury is generally to be carefully avoided, nor are strong cathartics desirable, but laxative stomachics, such as F. 30, 31, 32, 35, can be made use of. Counter-irritation to the back over the region of the kidneys is desirable, and may be effected by applying mustard poultices every night, or by the use of the compound camphor liniment night and morning.

HÆMORRHAGE, OR BLEEDING.

Bleeding from various internal parts of the body may depend on different causes. These causes are general or local, and they are often combined. In the first place, we may have general fulness, excitement of the vascular system, or a peculiar imperfect organization of the blood, which makes it more liable to exude from the capillary vessels. In the second place, we may have local weakness of the vascular organization, or some destruction thereof, and again, there may be some peculiar irritation, which tends to draw the blood to one particular part, or some impediment to its free return, in either instance causing congestion to take place in that locality. The knowledge of the cause of hæmorrhage of course serves to guide the treatment.

HÆMORRHAGE FROM THE NOSE.

This is especially common in children. It is very rarely of serious moment, and when depending on fulness about the head will often afford relief rather than otherwise. It is often indicative of want of action in the bowels, and may then be relieved with a good dose of opening medicine. If it recur repeatedly in an excited and plethoric state of system, it should be counteracted by mild antiphlogistic treatment, comprising aperients and low diet, and if there be much want of secretion about the liver or kidneys, a mercurial dose should be given in the first instance. When there is an irritable and feverish state of system, without much tone, the acid saline, F. 107, is often exceedingly serviceable if taken two or three times a day. If there be much debility, bark or quinine should be given, and if a decided astringent is desirable, the tincture of the sesquichloride of iron can be given. Lying down on the back and the application of cold to the forehead will usually suffice to restrain the bleeding at the time, but in some instances plugging the nostrils by the insertion of a portion of lint is found requisite.

HÆMORRHAGE FROM THE LUNGS, OR HÆMOPTYSIS.

When blood comes from the lungs, it is usually coughed up, especially in the first instance, and when the hæmorrhage is not very violent. When there is much blood lost, it comes with a gush, and not by the effort of vomiting, though there may be a sensation of faintness and sickness at the time. When it comes on gradually, it usually makes its appearance on first rising in the morning, but it may come on suddenly at any time from over-exertion or excitement. The expectoration of dark-coloured blood is of less moment than of that which is fresh-coloured and frothy, the former generally comes from the throat or one of the large air tubes, in which a small vein may have become ruptured; but in the latter instance, an artery must have given way in the substance of the lungs, the adjoining structure of which is usually unsound, and thus the spitting of blood is often the first obvious indication of consumptive disease. The treatment of hæmorrhage from the lungs, when unconnected with organic mischief, should be similar to that of bleeding from the nose. If there be an irritable cough, F. 117 can be resorted to. When there is violent determination of blood to the lungs, and the hæmorrhage is copious, then bleeding from the arm affords the promptest relief. When the blood-spitting is connected with a consumptive tendency, our treatment must be directed against the tubercular disease.

HÆMORRHAGE FROM THE STOMACH.

This blood is always discharged by vomiting. It is usually dark-coloured, escaping by the small veins. It is rarely of much consequence, mostly depending on a congested state of liver. A blue pill, or from three to five grains of calomel, with an aperient soon after, such as F. 68, followed up with F. 107, will usually give relief, and spare diet for two or three days should be observed. In some instances, however, the disease may be of more serious import, and very large quantities of blood may be lost. In such cases we must resort to the use of our most powerful astringents, F. 54, 55, 57, 58, for example: we must endeavour to control the great tendency to vomit, which is one great cause of mischief, by the constant administration of ice, and the application of mustard poultices over the region of the stomach; we must allay the irritation of the system with small doses of the solution of morphine, or F. 16, especially at bedtime; and we must most carefully maintain the free action of the bowels by such pills as F. 36 or 66, or, if requisite, with an enema of a quart of gruel, with one or two ounces of Epsom salts. Food must be taken in the smallest quantities.

HÆMORRHAGE FROM THE BOWELS

Is not uncommon both in children and adults. The blood is usually dark and venous. Its discharge often affords relief to some internal congestion, generally of the liver, and in adults is generally derived from the rupture of some enlarged veins situated near the lower part of the bowels, which constitute what are termed internal piles. In such cases free aperients must be given; calomel or blue pill, followed up with the draught F. 68, and subsequently F. 107, and in such cases turpentine, as in F. 56, is often very useful. The discharge of red or arterial blood, or even of venous blood, in large quantities, must be treated on the general principles already laid down.

HEADACHE.

This is a very common complaint, and may be occasioned by many different causes. We have plethoric headache, which depends on fulness of the vessels of the brain. It is indicated by giddiness and a throbbing sensation, combined with a feeling of weight and fulness. Bilious headache, caused by inaction of the liver, has much the same symptoms, but the pain is often more acute, and is chiefly experienced in the forehead; there is also a degree of nausea, the pulse is peculiarly oppressed, and the tongue is generally furred. Nervous headache occurs in weak and irritable constitutions; the pain is lancinating and acute, and may affect any part of the head, very often the back part. It is apt to occur after any over-exertion of mind or body. Sick headache is the nervous form combined with some derangement or weakness of the stomach; its nervous energy is deficient, so that it is incapable of digestion, and the consequent irritation caused by the unhealthy secretions or the undigested food at last occasions vomiting. Rheumatic headache is characterized by dull, aching, wearing pain, which may extend over the surface of the head, or be confined to one part only; motion of the head augments the pain, and the surface is tender on pressure. Rheumatic headache also generally occurs in those who are liable to the complaint in some other form. Neuralgic headache is not true headache, though it may affect the side of the head and brow; one side only is implicated, and the vicinity of the course of the nerves is the seat of the pain and tenderness, which often descends to the ball of the eye, the face, and the jaw. Thus it will be perfectly evident that if we can recognise the cause of the headache, the treatment ought not to be difficult.

PLETHORIC HEADACHE must be treated with depletion. Cupping, leeches, and active aperient medicine, such as blue pill or calomel at night, and F. 68 in the morning. The aperient action should be kept up with such pills as F. 36, 37, or 66, or any of the aloetic pills of the Pharmacopœia adapted to circumstances, and an occasional seidlitz powder as an addition. Tonic and stomachic medicine are often subsequently desirable, such as F. 47, 128, 149, especially to prevent the recurrence of attacks. There is nothing more essential than abundant exercise and regulated diet, with the avoidance of stimulants.

BILIOUS HEADACHE may be readily relieved. It is most apt to occur in warm weather, and is often attributable to faulty diet. When very bad, and especially in children, an emetic, F. 87, should be given, and shortly afterwards a moderate dose of blue pill or calomel, followed within four hours by the draught F. 44. The maintenance of mild aperient action, with the occasional use of the compound colocynth pill, or one of the pills F. 36, 66, will be desirable.

NERVOUS HEADACHE is best treated at the time by the observance of quietude, cold applications to the head should be used; a teaspoonful of sal volatile may be taken in water, or a little soda water and brandy, or the ammoniacal saline, F. 104. A small cup of strong tea or coffee, without milk, and with little sugar, will often afford relief. It is, however, during the intervals that most can be done by improving the general tone of the system. Iron is our best medicine. F. 164 or 166 can be recommended, but there are no better forms than the sesquioxide of iron taken in doses of from ten to twenty grains twice a day in treacle, or the tincture of the sesquichloride in from ten to twenty-drop doses twice a day in water. Quinine, in combination with an aperient, is often serviceable, as in F. 156, 158. Where there is irritability or

inaction of the stomach, a course of the pills F. 9 or 145 will be desirable, and often be more beneficial than even tonic medicine.

SICK HEADACHE is similar in its nature to nervous headache, only it is always preceded and accompanied by derangement of the stomach and liver. It is connected with a peculiar constitutional debility and irritability. When the vomiting is ineffectual, or nothing comes up but acid mucus or undigested food, a small dose of calomel, blue pill, or mercury with chalk, will allay the sickness, and relieve the head. If the vomiting be urgent, a mustard poultice applied to the pit of the stomach may do good, and the effervescent medicine F. 101 will be useful. The aperient F. 44 or 68 should be given as soon as the stomach can bear it. The treatment of nervous headache should be followed during the intervals; the diet should be carefully studied, and regular exercise must be taken.

RHEUMATIC HEADACHE is often very troublesome and obstinate. Its continuous nature, and being often worse at night than in the day, render it very distressing. In our treatment we must, in the first instance, attend to the state of the bowels; five grains of blue pill, with one grain of capsicum, or F. 4, should be taken at night, and the draught F. 44 in the morning. F. 67 or 80, according to circumstances, may then be made use of for a few nights. The powders F. 10 are sometimes serviceable, and also the mixture F. 148. In some instances quinine does good, and the pills F. 157 may be tried, but the best remedy in cases of long standing is the iodide of potassium, in doses of from three to five grains, twice or three times a day; it may be taken in half a wine-glassful of mixture of guaiacum by old rheumatic debilitated subjects, but generally from a quarter to a half pint of compound decoction of sarsaparilla is the best vehicle for its administration.

NEURALGIC HEADACHE must be met with the same treatment as other forms of neuralgia. The main difficulty, therefore, is in the recognition of the complaint. Iron and quinine are our remedies; of the first, the sesquioxide is the best form, and may be taken in doses of from twenty to thirty grains twice or three times a day; for the second, F. 156, 157, 158, or 163, may be resorted to, according to the special nature of the case.

HEARTBURN.

This complaint consists in a burning and gnawing pain, experienced at the pit of the stomach, and towards the left side of that region. There is usually sour taste in the mouth, much flatulency, and nausea. A weak state of the stomach usually predisposes to this complaint. It may be excited by any indigestible food; drinking large quantities of warm diluents, such as weak tea, may occasion it, and the abuse of strong purgative medicines is a common cause.

Treatment.—Alkalies will afford the promptest relief to heartburn; a teaspoonful of magnesia and half a teaspoonful of sal volatile, in a little cold water, soon does good, and F. 8 is also available for the purpose. Where the stomach is deficient in digestive power, F. 9, 34, 144, or 146, may fulfil the indications, and give tone to the digestive organs. We must, however, remember that heartburn is but a symptom of dyspepsia.

HEART, DISEASED.

Diseased heart, in the present day, is a very common disease throughout all classes of society; it assumes numerous forms, and is due to a variety of causes,

to which we will now briefly allude, and at the same time point out the peculiarities of treatment.

The substance of the heart may be increased and enlarged, which is termed hypertrophy. This is especially the case with the left ventricle, that part of the organ which has to propel arterial blood throughout the entire body. Hypertrophy of the heart is a disease of gradual formation, and usually originates in rheumatism, over-excitement, or habitual violent muscular exertion. In connexion with the development of the disease in question there is most often some impediment to the exit of the blood from the left ventricle, or an undue reflex pressure made by the blood itself. The pulse may be weak, or full and strong in its character. There is violent beating or impulse of the heart, distinct from the sound of it, which may readily be felt, and the sensation is often complained of. There is usually a florid complexion, occasional headache, shortness of breath, and a tendency to hæmorrhage and inflammatory attacks. These cases not unfrequently terminate in apoplexy. The chamber of the ventricle is frequently dilated, as well as having its walls thickened. This is also owing to the passage of the blood being impeded, and the symptoms are then often more serious and urgent.

The treatment of hypertrophy of the heart consists in quiet of mind and body, low diet, and general antiphlogistic means. Small general and local bleedings, especially by cupping, are very beneficial; mild alteratives and aperients, such as a little blue pill at night, or F. 2 or 3, and a seidlitz powder occasionally, or F. 46, are requisite, and the medicine F. 115 is often very serviceable.

The right ventricle of the heart is seldom hypertrophied, but often dilated, and this is generally the consequence of long-standing disease of the lungs, which has prevented the easy passage of the blood; the right auricle and the jugular veins usually participate in the dilatation, which may be very apparent in the lower part of the neck. The symptoms of the disease are, fluttering of the heart, irregular pulse, distress and shortness of breathing, a dusky skin, bloated and anxious countenance, tendency to delirium and drowsiness; finally, general dropsy supervenes. On listening to the sounds and impulse of the heart, they are usually found tumultuous and excessively irregular. Such cases are excessively difficult to treat: tonic and stimulating means do mischief, and lowering ones cannot be borne to any extent. Gentle action on the kidneys, by such medicines as F. 81, 82, 103, may be resorted to. The action of the stomach and bowels may be regulated by such pills as F. 35, 36, 38, 145, avoiding strong mercurial and cathartic medicines as far as possible. Counterirritation should be kept up with the antimonial ointment F. 140 over the upper part of the chest. If any tonic can be borne it is iron: ten-grain doses of the sesquioxide, or fifteen drops of the tincture of the sesquichloride, may be taken twice or three times a day, or the medicine F. 164 may be tried.

The two ventricles of the heart may be simultaneously diseased, and the auricles may participate in the hypertrophy of the ventricles. The whole substance of the heart is sometimes materially diminished in bulk and deteriorated in texture, and, in fact, weakened exceedingly, though without any obvious cause: this may not be much felt if there be an easy and quiet kind of life; but if any severe trial of the constitution occur, it will then manifest its influence.

VALVULAR DISEASE.—The valves of the left side of the heart are much more apt to become affected than those of the right side. Slight inflammation, especially of rheumatic character, will gradually change the texture of the valves from being thin and flexible to a firm and dense state, such as cartilage, and even bone, so that they become less moveable and less capable of protecting the respective apertures to which they are adapted, thus impeding the egress of

blood on the one hand, and permitting its undue reflux on the other hand. The valves may be lacerated, or be rendered thin and faulty, and also they may become the seat of small tumours. All these changes have the same effect, that of interfering with the proper valvular action. The aortic valves, which are placed where the large pipe or artery takes its departure from the left ventricle, are very commonly diseased, and this gives rise to a peculiar sound, different from the mere sound of contraction; it is termed *the bellows sound*, and depends on the diminished size and motionless state of the natural aperture. The valve which exists between the left ventricle and left auricle—namely, the mitral valve—may become diseased, when somewhat similar sounds are given rise to. This affection will, of course, impede the passage of the blood from the lungs: it will, therefore, cause those organs to become seriously affected, rendering them liable to become congested, and so giving rise to hæmorrhage from the lungs, and even what is termed pulmonary apoplexy. The valvular diseases of the right side of the heart are of rare occurrence, and comparatively of little consequence. To distinguish the various morbid sounds characterizing the different diseases of the heart requires much tact and experience; the nature of the sounds, their locality and extent, together with the pulse and the general constitutional symptoms, combine to afford guidance to the physician. It must be remembered that the impulse of the heart is distinct from its sounds; the first depends on the concussion of the walls of the chest and the adjacent viscera by the heart's contraction; the second, which in its healthy state is double, is constituted in the first place by the dull, prolonged, rasping sound, indicating ventricular contraction, and simultaneous with the pulse, and in the second place by a sharp clicking sound, which is supposed to be caused by the closure of the aortic valves, so as to prevent the reflux of blood into the left ventricle. From what has been said in reference to valvular disease of the heart, it will be readily apparent how hypertrophy and dilatation usually become combined therewith, and it is not until one of these morbid states is established that much inconvenience is experienced. In the first instance, valvular disease may merely give rise to some feelings of uneasiness, slight irregularity of the circulation, a little embarrassment of respiration, perhaps attended with a trifling cough; and it is only auscultation, or an examination of the sounds of the heart, that enables us to detect the mischief which is in progress.

The treatment of valvular disease of the heart is exceedingly unsatisfactory. The observance of quietude and the avoidance of exertion and excitement must be positively enjoined. The diet should be strictly regulated, and very moderate in its character, and the avoidance of all stimulating liquors, except under peculiar circumstances, must be strictly observed. Disease of the heart is a common occasion of sudden death, and it is probable that the great majority of the cases which occur are attributable to that cause in one form or another.

FUNCTIONAL DISEASE OF THE HEART.—Derangement of cardiac action, without any organic disease, is a common accompaniment of many complaints, especially those of nervous character. Thus we may have beating, palpitation, or irregular action, and yet nothing serious amiss. Beating of the heart may originate in over-excitement or digestive derangement; palpitation may depend on undue nervous irritability; and irregularity of the heart's action will generally be caused by nervous exhaustion or deep-seated digestive derangement. These are merely symptoms, and must not be confounded with the serious diseases of which we have been speaking, which would occasion needless alarm.

HICCOUGH, OR HICCUP.

This consists in a convulsive contraction of the diaphragm or midriff, which gives rise to sudden inspirations at short intervals. It is a symptom of some derangement of the stomach, and indigestible food, flatulency, acidity, are the immediate causes of its occurrence: it is very common with young children. Hiccough is sometimes a nervous affection, and may then have considerable duration. A draught of cold water, or the same with an addition of two or three teaspoonfuls of brandy, or half a teaspoonful of sal volatile, will usually relieve the ailment. For children, a little magnesia, with or without a few drops of sal volatile, is generally beneficial. When hiccough is habitual in the adult, the pills F. 9, 34, are serviceable.

HOOPING-COUGH.

This disease consists essentially in paroxysms of loud convulsive cough, gradually decreasing in force, apparently from exhaustion, and from the expulsion of a great proportion of the air contained in the chest by the series of rapid and forcible expirations. This is closely succeeded by one long spasmodic inspiration, which, drawing the air rapidly through the contracted air passages, gives rise to a loud shrill sound, which is termed a whoop or hoop. The violent convulsive fits of coughing bring up much mucus from the lungs, and often occasion sickness; thus there is sometimes difficulty in retaining any food on the stomach. Much exhaustion often follows the convulsive attack, and for some time it may cause the breathing to be short and hurried: the face often becomes swollen. In the first instance we generally have the symptom of a feverish cold, with slight difficulty of breathing, and often a tendency to inflammation. In the course of about a fortnight, however, the disease puts on its peculiar character. The complaint may be speedily subdued, or it may be tedious in its course, and even not subside for months. It is not usually fatal, but is most severe in very young children. The complication of inflammation of the lungs constitutes the danger, and its slow and insidious approach is to be carefully guarded against.

Treatment.—In the first feverish stage of the disease, F. 4 for an adult, or in smaller proportion for a child, should be given at bed-time, and a little castor oil, or F. 42 or 69, in the morning; these may be repeated if necessary two or three times; the medicine F. 111 or 119 may then be useful. The diet should be regulated, and made mild and unirritating; cold should be carefully avoided, and a warm-water or steam bath at bed-time is occasionally desirable. As soon as the disease is established, our treatment must be varied. An emetic, F. 87, should be given at bed-time, as often as requisite, perhaps every other night. It will serve to relieve the chest of the load of phlegm which often accumulates, and at any rate it tends to relax the spasmodic condition of the air passages. The bowels should be kept gently open with castor oil or F. 42. The cough medicine, F. 118, 121, may be given occasionally. Our chief reliance, however, should be on opiate frictions, which are well-nigh infallible in effecting a cure; the liniment F. 19 should be perseveringly rubbed in over the throat, spine, and chest, night and morning, for a quarter of an hour or twenty minutes. For young infants the liniment should be made with only half the quantity of laudanum and spirit of camphor. When the disease is evidently chiefly spasmodic, without the combination of inflammatory symptoms, we must avoid all irritating and lowering treatment, and especially beware of calomel. The diet should be light but nutritious, but tonic medicines are rarely required. Occasionally change of air may be desirable. Decided infla-

mation of the lungs of course requires appropriate treatment, as elsewhere described, but where there is merely a lurking tendency thereto, the antimonial ointment, F. 140, may be applied each night in lieu of the opiate liniment, until some slight counter-irritation is established.

HYDROPHOBIA.

Hydrophobia literally means a dread of water. This fearful and fatal disease is essentially spasmodic and nervous in its nature, and is occasioned by the inoculation of the saliva of a rabid animal. It is fortunately of very rare occurrence. The wound inflicted heals as an ordinary one, and it is not till the lapse of an uncertain interval, usually within six months, than any inconvenience is experienced. The person first complains of feeling generally unwell; the locality of the wound becomes sore and uncomfortable, and even painful; he soon becomes irritable, and general aching of the muscles is experienced, with some stiffness about the neck and throat; he then finds himself unable to swallow liquids, or can only do so with considerable effort, and much sobbing attends the endeavour; the surface is very irritable, and any current of air occasions shrinking and horror, and even the waving reflection of a mirror will have the same effect: violent convulsions now occur at intervals, with much foaming at the mouth; and the convulsive paroxysms will come on spontaneously, or may be brought on by the sight of liquids, or the slightest breath of air. During the intervals the patient is generally in a state of considerable excitement, and he speaks in a hurried manner, though quite sensibly; he looks askance, and seems to labour under some indefinable dread; he hawks incessantly, and endeavours to expectorate, as though something were lodged in the throat, but nothing is brought up beyond a little viscid plegm; no pain is complained of, and he will generally declare that there is nothing the matter with him when asked; at times there is muttering delirium, and he talks on some imaginary subject. Such are the most prominent symptoms which occur, and within the space of three days the patient usually dies exhausted. All treatment has hitherto been found unavailing for this mysterious disease, though medicines of every description have been tried. Tartarized antimony, ammonia, or chloroform, have not hitherto been much resorted to; they are certainly feasible remedies, which seem to deserve a fair trial. For further information on the subject, *see* POISONED WOUNDS.

HYPOCHONDRIASIS.

This is a form of nervous disease which is often troublesome to treat. It consists of lowness of spirits, with gloomy and desponding thoughts, and strange fears and fancies. It may depend on excessive exhaustion of nervous power from anxiety, disappointment, or undue mental exertion. It may also originate in bilious affection or derangement of the general health, and these latter causes often enter into combination with those first mentioned. To abstract the patient from the occasions of nervous irritation and depression must be our first aim, and to turn his attention and thoughts in other channels and to other objects than those which have been prejudicial. Thus the merchant must leave his counting-house, the student his books, and the lawyer his office, and endeavour by change of scene, and amusing and agreeable pursuits, to divert his mind and employ his attention: he must brace up his nerves, and gain tone for his general system, by exercise on horseback or on foot, by regulated diet, and by early hours, and thus he may regain fresh vigour for the pursuits of life. Indolence and luxurious living, together or individually, are fertile sources of hypochondriasis; they will cause a morbid irritability, which soon gives rise to

strange morbid feelings, which prey on the mind, warping every thought, and converting all into gloom and despondency. Here we should resort to active employment, and endeavour to engage the mind in some pursuit which will occupy and interest it, at the same time that there must be thorough reformation of diet and regimen.

Treatment.—We must in the first place attend to the state of the bowels, which are often torpid and inactive. Where the secretions are much depraved, two or three doses of blue pill on alternate or even consecutive nights may be desirable, to be followed in the morning by a purgative, such as F. 43, 44, 68, 69, according to the circumstances of the case. An ounce and a half of compound decoction of aloes, taken once or twice a day, may answer admirably. F. 128, 149, 150, are good stomachic medicines, when such are requisite from failure of appetite, &c. Where the action of the stomach and bowels is merely sluggish, without manifesting serious derangement, the pills as per F. 30, 32, 34, or 35, will suffice to maintain that mild aperient stimulation which should constitute the main feature of our medical treatment of hypochondriasis. We cannot lay too much stress on the necessity of pure air and abundant exercise. The diet should be nutritious, and rather generous than otherwise: meat may be eaten twice a day, and a moderate amount of stimulating liquids taken, in the shape of good sherry, weak brandy and water, and the pale bitter ale. Too much tea and coffee should be avoided, and, in lieu of either of those beverages, in the after part of the day, a little seltzer water, with a glass of sherry in it, and a biscuit, will be preferable.

INCONTINENCE OF URINE.

This complaint consists in the urine passing involuntarily, without the patient having the power of retaining it, and often without his being conscious of its taking place; the complaint may be only partial. It commonly occurs in children or old people, and generally, especially in the latter instance, it depends on a kind of paralysis of the muscle at the neck of the bladder.

In children incontinence of urine often originates in laziness or carelessness, but it may arise from debility. It generally occurs at night, and in such case the child should be prohibited from taking any fluid towards bedtime, and be made to empty the bladder thoroughly before going to sleep. If we consider that there is constitutional weakness, half a teaspoonful of the syrup of the iodide of iron, or from five to ten drops of the tincture of the sesquichloride of iron, should be given twice or three times a day in a little water to a child between two and five years old. A small blister to the sacrum is sometimes an efficient remedy. Cold sponging, or a douche down the spine at bedtime, may be tried. If these means fail, the application of a little lunar caustic round the inner part of the opening of the urethra from time to time will rarely fail to effect a cure: it causes a little soreness, which is acutely felt on the passage of the first few drops of urine, and so wakes the child if asleep. Passing the urine into warm water, or the application of a little cold cream or sweet oil before its emission, will prevent the pain.

In old people incontinence of urine may on the one hand depend on debility, either local or general, while on the other it may originate in irritation of the bladder from chronic inflammation, stone, &c. Thus, when connected with debility, the complaint must be treated with stimulant and tonic medicines, such as the tincture of sesquichloride of iron, or the mixture F. 130. The infusion of buchu is also a good medicine, and it may be combined with the mineral acid drops F. 6, or with the tincture of cantharides, in doses of from ten to twenty drops: a blister to the sacrum is another remedy; and a cold douche or sponging may do good. When the complaint depends on irritation

of the bladder, our line of treatment must be different. Mucilaginous diluents, such as solution of gum, linseed tea, or barley water, must be drunk copiously. Small doses of opium will be serviceable, for example, five or ten drops of laudanum two or three times a day in the infusion of buchu, or it may be taken at bedtime in the form of Dover's powder. When the urine is acid, the alkaline mixture F. 8 will sometimes do good.

INFLAMMATION.

Inflammation is indicated by *redness, pain, heat, and swelling*, which when the part affected is external are readily perceptible, but they are somewhat obscure and hidden when it is internal. When the attack is severe, the local excitement is attended with fever and general disturbance of the system, and this is especially indicated by the state of the pulse.* All parts of the living body may be subject to inflammation, and that inflammation is liable to vary according to the texture and organization of the part affected. Inflammation is very apt to take place in the very vascular and highly organized parts: it goes on most rapidly therein, and though it may be replete with danger, yet when once that is passed, the recovery will most probably be complete and satisfactory. But when inflammation sets up in the less vascular parts, where the organization is of lower character, the progress of the disease will be more tedious, and though the danger will be less throughout, the recovery of the health of the part will be slower and more uncertain. Thus it is apparent that the high vitality of any part makes it more liable to disease, yet at the

* *The pulse* being of special importance in reference to inflammation, we cannot do better than here offer a few general observations on the subject.

The term *pulse* is usually applied to the beat and stroke of the artery, which may be felt on the thumb side of the wrist, and it may also be found by pressure on any other artery sufficiently superficial. The pulse is felt almost at the same moment that the heart contracts, sending a wave of blood through the arteries. It indicates the pressure and force of the heart's contraction, the amount and disposition of the mass of the blood, and also the contracted or relaxed conditions of the various bloodvessels. These states influence the character of the pulse, which, therefore, by its peculiarity, affords to the practised observer an index to the condition of the entire system, showing the nature of the constitution, and denoting the occurrence of any deviation from health.

The average pulse of a healthy male adult is from 80 to 72 strokes in a minute, that of a female somewhat more. During the first year of life the pulse is at the rate of from 135 to 110 beats in each minute; during the second and third year from 100 to 110; during the fourth and fifth year it averages 95; at the seventh, 90; at the fifteenth, 85; and between the fifteenth and twenty-first year it may even sink below the adult average. In age, as a general rule, the pulse is slower than in the adult. The said averages of pulse are, however, liable to much difference, for while in some persons it is naturally slow, in others it may be fast, and also it may be strong or weak, according to the nature of the constitution, the action of the heart, and the size of the artery. The pulse of the individual may vary much within twenty-four hours; exercise, digestion, or any excitement, may accelerate or augment it much beyond what it is during perfect quiescence, while in sleep it falls below the average. There is, however, a marked departure from the average when any morbid state exists, and which may be very readily recognised. In inflammatory states the pulse is quickened and becomes harder and less compressible, and where there is plethora it is also usually fuller; where there is congestion or obstruction, the pulse is labouring or impeded; where there is much nervous excitement there is rapid action of the pulse; where there is a state of constitutional debility, the pulse is feeble and compressible, though from relaxation it may give the sensation of fullness. Disease of the heart has a special influence on the pulse, sometimes giving the semblance of inflammation, and sometimes that of debility, but at the same time there is usually some irregularity or intermission of beat which serves to distinguish it. The different forms of inflammation have mostly an individual peculiarity in reference to the pulse, which we shall generally notice in passing.

same time it renders it more apt for the recovery of health. The danger of an inflammation must also bear proportion to the importance of the affected organ, and the more essential the function is to life, the less readily will any interference or impediment be borne. Plethora or excitement predispose to inflammation: local irritation, checked secretion, or a chill will arouse it. Inflammation is termed *acute* when rapid in its progress, violent in its character, and speedy in its result, and occurs in the most marked form in persons of strong muscular temperament. Where inflammation is slow in its course, milder in its form, and uncertain as to its duration, it is designated as *chronic*, and this is most apt to affect lymphatic habits or some peculiar modifications of the bilious constitution.

Inflammation, whether external or internal, acute or chronic, tends to one of five results. 1. Resolution; that is, the disease may develop its ordinary symptoms, and then gradually subside, without further mischief. 2. Effusion, which consists in the inflamed capillary vessels pouring out some portion of the blood material, serum, albuminous matter, or fibrine, also known as coagulable lymph. 3. Suppuration, which is constituted by the formation of purulent matter, which is secreted by the vital action of the capillaries from the blood itself: when this matter is contained in a circumscribed cavity, it is called an abscess. 4. Ulceration, which is generally preceded or accompanied by more or less suppuration, and consists in an undue removal of some of the animal substance by the action of the absorbents, thus occasioning a breach of substance. 5. Mortification, or gangrene, which consists in the death of the part; the circulation becomes arrested, and its vitality is thus lost; the vital reaction of the system generally sets up suppuration and ulceration, to endeavour to arrest the more fatal disease, and throw it off.

Treatment.—The above remarks are applicable to both external and internal inflammation, as also will those be that I am about to make. The various forms of external inflammation, and those of the different internal organs, will be spoken of under their respective heads. In a case of acute inflammation we must generally take care in the first instance that any exciting cause shall be removed as far as possible. I mean such as the application of cold air to the lungs, a foreign substance in any part of the body, any undue pressure, &c. &c. In the second place, we have to appreciate the violence of the inflammation by the local symptoms, and the degree of fever which accompanies it, in order to prescribe antiphlogistic treatment in due proportion. If, for example, the patient be strong and vigorous, and there is a large amount of inflammation, if it be seated in any vital part, or there is reason to apprehend such will be the case, then the free abstraction of blood, both generally and locally, will be requisite.* The patient should therefore be bled from the arm, and subsequently,

* Bloodletting is an important remedy for inflammation and congestion, acting by removing part of the material of morbid development, at the same time that it reduces the excitement of the system. While in many inflammatory and congestive states there is no remedy that can produce so good an effect as free bloodletting, or supply its place, yet there is a large proportion of such cases wherein, from the peculiar unhealthy condition of the blood and the depression of the vital power, such depletion must only be resorted to with great caution, if at all. Of late years bloodletting has gone much out of fashion, and this is partly owing, on the one hand, to improvement in medical treatment, and greater reliance on the restorative power of nature, and on the other partly to the altered character of disease in general, which now tends to debility and want of power more than was formerly the case. It is impossible to lay down any decided rule as to the extent to which the abstraction of blood should be carried, but the following brief observations may afford some guidance. We have first to decide as to the necessity of bloodletting, and in this we must of course be guided by the nature of the complaint. Where there is acute and violent affection of any vital organ, such as the brain, the lungs, the bowels, there can be no doubt of the propriety of the measure: it must then be at once carried to such an extent as to reduce

if necessary, cupping or leeches should be resorted to, and even be repeated if requisite. Where the inflammation is not violent, or if we have not a strong constitution to deal with, local bleeding alone will generally suffice. If the inflammation be internal, hot applications should be used over the affected part, such as fomentations of hot water, or of decoction of camomiles and poppy-heads, or bran poultices. If the inflammation be external, we may use the same hot applications, unless cold ones are more agreeable to the feelings, in which case we may use lead lotiou, or F. 123, 124; there is, however, no better application than cold water; these last may be kept applied with a double fold of linen rag, which should be kept constantly moist. Purgatives, salines, mercurials, and antimonials may be required for the general treatment, and their use must be carried far enough to lower the state of constitutional excitement.

INFLAMMATION, CHRONIC.

This is widely different from acute inflammation. It may go on in a slow, imperfect, and languid manner from the commencement, or it may be the relic of violent and acute disease, when its strength has abated or been subdued. It may linger on, finally subsiding, or at length terminate in the slow manifestation of one of the other results which I have alluded to. Chronic inflammation is generally connected with debility, and it rarely calls for any depletion, requiring rather tonic and stimulating treatment. Thus, when the affection is external, as in the eye, the application of caustic, as in F. 137, may do good; in other cases, the application of the tincture of iodine may be serviceable. Cold water, applied as a douche, or with a pad, and a dry wrapper over it, may be beneficial; or even the influence of simple pressure, made with a bandage, may be advantageous. When the affection is internal, and deeply seated, counter-irritation affords the chief means of cure. Blisters, issues, setons, and various stimulating applications, such as F. 135, 136, 139, 140, or the compound mercurial liniment, may be made use of. Simple friction is often advantageous. Internal medicine may be desirable in chronic inflammatory cases, whether internal or external, and those which are most generally useful are of alterative character, such as the compound calomel, or Plummer's pill, taken every night, or even night and morning, or F. 5, 7, may be available. Tonics may be desirable; iron, in the form of the sesquioxide, the syrup of the iodide, or the citrate, and bark, or quinine, according to circumstances, either alone or in various forms of combination. Exercise and the regulation of the diet must never be lost sight of.

the undue vascular action and relieve the symptoms. A decided depression of the vital power should be effected, so as to produce faintness, and thus will the system be placed in the most favourable state for medicinal action. When the bleeding produces very speedy depression, and the pulse becomes quick and weak, while at the same time the morbid symptoms are but little relieved, then we may feel assured that it does no good, and should on no account carry it further. The abstraction of blood may be desirable in inflammation occurring with a healthy person as the result of accident, or be required in consequence of some local disease, and we must then be satisfied to carry the depletion far enough to relieve the symptoms without occasioning any marked constitutional depression. It is in the last class of cases that the amount of blood to be taken admits of some uniform calculation, and wherein the local abstraction of blood is often far preferable to that which is general. From sixteen to twenty-four ounces of blood may be considered a full quantity for an adult; ten or twelve ounces a moderate one; and six or eight ounces a small one. By cupping, half the quantity of blood may be taken in the same proportion. As to leeches, twenty may be applied for an adult; about twelve above the age of fourteen; seven above the age of five, down to three for children above the age of one year.

INFLAMMATION OF THE BLADDER.

This is a rare disease in the acute form. It is indicated by the local pain and the constant desire to make water, with violent straining efforts; it is accompanied with high fever. The complaint may arise from the injudicious use of such medicines as especially affect the organ, chiefly copaiba or cantharides, from excessive indulgence in spirituous liquors, or it may be the result of debauchery.

Treatment.—It will require bleeding from the arm or by leeches, hot hip-baths, and calomel and opium, one grain of each every four hours, gentle aperients, such as castor oil, and salines, such as F. 103, 105, for its cure. Mild diluents, such as barley-water, should be drunk plentifully.

INFLAMMATION OF THE BOWELS OR INTESTINES.

In the commonest form of this disease it is the small intestines which are affected, and the middle and outer coats rather than the mucous or inner one. The symptoms are inflammatory fever, and the pulse is usually hard, quick, and small. There is pain in the abdomen of intense aching character, and often much additional griping sensation at intervals, but the first-named pain is constant. There is much tenderness on pressure, a little abdominal fulness, nausea, and subsequent vomiting of dark-coloured fluid, and obstinate constipation. This disease may go on rapidly, terminating in mortification, when there is a sudden cessation of pain, sinking of the pulse, distension of the belly, a peculiar shrinking of the features, and a cold clammy state of the surface. The patient usually continues sensible, almost to the moment of death. A favourable termination may be anticipated when the fever subsides, the pain abates gradually, and the bowels resume their action.

Treatment.—Blood-letting is our most powerful remedy, and must be used freely and fully, so as to afford relief; within a few hours its repetition may be necessary, if the symptoms do not subside, or seem again on the increase; or, if preferable, from ten to twenty leeches may then be applied. Hot fomentations or bran poultices should be used. A good dose of calomel, three to ten grains, should be given in the first instance, and two hours afterwards an ounce of castor oil, or the draught F. 68; in mild cases the pills F. 65 may be given at the outset; we should, however, make but one effort to act on the bowels, because, though the removal of fecal matter, which may have lodged and caused obstruction in them, is very desirable, yet if we cause too much irritation in our endeavour, we may bring on uncontrollable vomiting, and greatly aggravate the state of inflammation. The medicine on which we may most rely is a combination of calomel and opium, two grains of the former with one of the latter, or we can substitute one quarter-grain of acetate of morphine for the opium; either of these may be given as a powder, or in the form of a pill, and may be taken every two, four, or six hours, according to the severity of the case. When there is sickness, the effervescent medicine F. 102 may also be given. If the bowels do not act when the urgent symptoms have become somewhat subdued, we must then endeavour to open them with an enema of about one quart of thin gruel and two ounces of castor oil, or, if the stomach be tranquil, we may try five grains of compound colocynth pill, repeating it at short intervals. When there is much abdominal tenderness after the subsidence of the violent inflammatory symptoms, a blister will be desirable. The diet should be the same as in inflammatory fever, and during convalescence we must be peculiarly careful that the patient shall not take too much food, or that which is indigestible.

INFLAMMATION OF THE BRAIN.

This has the usual symptoms of inflammatory fever, and in addition we find severe pain in the head from the commencement of the disease. There is great intolerance of light and noise; the eyes are suffused and bloodshot, with the pupils contracted; there is great watchfulness and violent delirium; the breathing is usually slow, the pulse hard and small. The causes of inflammation of the brain are generally an injury of the head, long exposure to the heat of the sun when powerful, intense study or anxiety, or any undue excitement.

Treatment.—The most active depletion is requisite; blood must be largely abstracted from the arm, and subsequently from the temple, by cupping or leeches. The head should be shaved; cold water, or even ice, should be kept applied, and powdered ice or freezing mixture in a bladder is a good application. A dose of calomel, from five to six grains, should be given immediately, and followed up by one of the aperients F. 68, 69, 70, which should be repeated at intervals of four hours until the bowels act freely. Calomel may then be given in doses of two to five grains every two hours until the constitution is brought under its influence. Colchicum is one of our best remedies in cases of inflammation of the brain; it may be given in the shape of F. 113, at short intervals, until a decided effect is produced. A strong blister to the head or the nape of the neck often helps to afford relief, especially when the first violence of the attack is gone by. The management of the patient's convalescence requires great care, and all excitement and stimulation must be most carefully avoided. Chronic inflammation of the brain may lead to insanity.

INFLAMMATION OF THE HEART, PERICARDITIS.

Inflammation of the substance or lining membrane of the heart rarely occurs as an acute affection, but it often assumes a chronic form, giving rise to what we have noticed as disease of the heart. Pericarditis, or inflammation of the covering of the heart, however, is by no means uncommon. The heart is contained in a strong fibrous bag, lined with a fine serous membrane. This is liable to become affected with inflammation, especially in the course of rheumatic fever, and it constitutes a most dangerous disease from impeding and interfering with the action of the heart itself. The result of the disease in question may be the effusion of fibrinous matter, which will render the surface of the pericardium rough and uneven, or agglutinate it to the exterior of the heart, or it may consist in the secretion of a quantity of turbid serum, in which there is much fibrinous and albuminous matter. The symptoms of pericarditis are pain and oppression in the region of the heart, inability to lie on the left side, difficulty of breathing, a dry cough, anxiety of countenance, irregular pulse, pain and stiffness in the left shoulder, often extending down the arm; the action of the heart is found much disturbed and tumultuous, and a peculiar rubbing sound may be heard to accompany it; there is generally delirium. Even in the event of recovery, some mischief usually remains behind.

Treatment.—This must be active and decided. Free bleeding will be requisite in the first instance, if the patient be strong, so as to produce a decided effect on the heart's action, and at any rate local abstraction of blood will be available, especially by cupping. Calomel and opium should be given assiduously at intervals of a few hours—three grains of the former and one of the latter. Mercury, indeed, is our sheet anchor, and it must be persisted in until it produces its constitutional influence by causing salivation. The application of a large blister over the region of the heart will be very advisable. The diaphoretic F. 76 may be used, and the addition of digitalis will often be found very serviceable.

INFLAMMATION OF THE KIDNEYS.

In addition to inflammatory fever, there is pain in the loins, more especially on either side, and this is also felt deep in the abdomen, extending down towards the lower part of the bladder; the pain may be dull and aching, or it may be more acute; the testicle of the side affected may be tender, and shrink or retract, and the thigh will be numb; there is frequent desire to make water, which is scanty and high-coloured; there is nausea and vomiting; the bowels are usually costive. The symptoms of nephralgia or nervous irritation, which usually depends on gravel or stone, are very similar, but the fever is wanting. Lumbago may be taken for inflammation of the kidney, but the pain thereof is generally on both sides, and most especially exasperated by movement. Inflammation of the kidney may terminate in an abscess, or it may lay the foundation of chronic disease, which will cause dropsy.

Treatment.—Bleeding may be requisite to such an extent as the patient can bear, or cupping may be resorted to. A warm bath will be very useful, or at any rate hot fomentations or bran poultices. The bowels must be freely unloaded, and the best means of effecting it is with from two to five grains of calomel, and two hours afterwards from half an ounce to one ounce of castor oil, or the draught F. 68 may be given; but saline purgatives are generally objectionable in this disease, and even the pills F. 36 or 66 are preferable, especially to maintain the aperient action. Subsequently the mixture F. 103 may be given, and if there be much pain, irritability, or sleeplessness, an opiate may be given at bed-time, such as ten grains of Dover's powder, or the draught F. 100.

INFLAMMATION OF THE LARYNX.

The larynx is situated at the upper part of the windpipe; it consists of numerous cartilages and muscles lined with mucous membrane, and with it is connected the mechanism of the voice. It is a peculiarly shaped cavity, being much narrowed in parts, in order to modify and give impetus to the passage of air, so occasioning sound. If inflammation, either acute or chronic, affect this organ, and especially its lining membrane, respiration is speedily affected by the swollen and irritable state, and a most dangerous disease is constituted, though fortunately of rare occurrence. While croup or inflammation of the windpipe is a disease almost peculiar to children, inflammation of the larynx usually does not occur till after puberty. Symptoms:—The disease begins apparently with a sore throat, cold, and fever, and on examination we can perceive considerable redness at the back of the throat. There is pain and tenderness on pressure in the situation of the larynx, a sense of constriction, difficulty of breathing, a choking and wheezing inspiration, a harsh cough, and a hoarse or whispering voice. Difficulty of swallowing is also experienced, and there is peculiar distress and anxiety. The face at first is flushed, then becomes livid and anxious, and there is excessive restlessness and desire for air.

Treatment.—General bleeding may be had recourse to early in the disease, but at a subsequent period, at any rate, cupping from the back of the neck or upper part of the chest is more desirable: leeches ought never to be applied over the site of the disease, as they tend to cause swelling of the integuments, which may aggravate the mischief. A blister may be useful, and should be applied to the nape of the neck or upper part of the chest. Medicines are of little avail; the best, perhaps, is tartarized antimony, given in such doses, frequently repeated, as to keep up nausea without causing vomiting; it can be combined with small doses of acetate of morphine, which will cause it to be better borne, and at the same time allay the constitutional irritation. Surgical

interference may sometimes do much in extreme cases of the disease in question. By making an opening in the windpipe, which is situated lower down than the larynx, the passage of air into the lungs is at once facilitated, and relief afforded, at any rate for the time. The internal application of caustic has been recommended: the strong solution F. 137 may be applied with the aid of a piece of sponge fastened to a slip of whalebone. Chronic inflammation of the larynx is usually the sequence of the acute disease, or it may be connected with consumption or syphilis. It generally leads to ulceration, and will by itself generally wear a patient out more or less speedily. In addition to appropriate constitutional treatment, counter-irritation is our best remedy, and this is to be effected by tartarized antimony or croton oil, as in F. 139, 140, which should be applied thoroughly to the surface near the diseased part, so as to bring out and maintain a copious pustular eruption. If the respiration become greatly impeded, the operation for opening the windpipe, to which we have alluded, may be of temporary service.

INFLAMMATION OF THE LIVER.

In addition to inflammatory fever, with quick, hard pulse, the symptoms are fulness, tenderness, and pain in the region of the affected organ; the pain extends to the right shoulder, and there is difficulty of lying on the left side; the bowels are costive, and the urine is high-coloured; the patient suffers with nausea, and perhaps retches; there is hiccup, and a short dry cough; jaundice often comes on in the course of the disease. If not arrested, acute inflammation of the liver may terminate in the formation of an abscess, which, according to its situation, may break and discharge itself in various ways. It may make its way externally, or open internally, and will generally prove fatal by inducing low irritative fever; the matter has been known to find a passage into the bronchial tubes, so as to be expectorated from the lungs; and again the abscess may burst so as to pass into the small intestine, either through the hepatic duct or in some other way. The disease in question may owe its origin to any of the ordinary causes of inflammation, but intemperance, a hot climate, especially where there is much exposure to damp and night air, most commonly give rise to it.

Treatment.—This consists of blood-letting, general and local. A dose of calomel, from three to eight grains, must then be given, followed at short intervals by saline aperients, such as F. 46, 105, or even Seidlitz powders, or teaspoonful doses of Epsom salts may be substituted, and these must be persisted in until the bowels are thoroughly relieved. We must then resort to calomel, in from one to five grain doses every four or six hours, with each of which we must combine from half a grain to one grain of opium, in order to prevent any undue purging; and this must be continued until some relief is obtained, which will generally be evident when the mouth begins to get sore, and copious secretion of bile takes place. The effervescent saline F. 102 may be taken at intervals between the mercurial doses, so as to allay the fever and abate the irritable state of the stomach. Hot fomentations may be serviceable at the commencement of the disease, and a large blister at a later period. Very low diet must be strictly observed.

CHRONIC INFLAMMATION OF THE LIVER will be referred to under the head of LIVER COMPLAINTS.

INFLAMMATION OF THE LUNGS.

This embraces a very important class of diseases, which are of common occurrence. We have here to speak specially of inflammation of the lining

membrane of the lungs, which is termed bronchitis, and inflammation of the substance of the lungs, which is called pneumonia. Inflammation of the covering of the lungs is known as pleurisy, and we shall speak of it separately, for though it is frequently in combination, and almost as it were a part of pneumonia, yet it will often occur by itself, and requires distinction.

BRONCHITIS.—The symptoms of this disease are an aching pain and soreness in the chest; a loud, dry cough, subsequently becoming moist and suffocative; embarrassed and hurried respiration; a frequent pulse, sometimes large, but rarely very strong; and more or less general fever. The disease tends to resolve itself in the secretion of thick viscid phlegm, which gradually becomes thinner and more copious, when the cough is looser, and the expectoration at first difficult, is rendered more easy. At the commencement of bronchitis, a harsh, dry sound, amounting sometimes to snoring, may be heard through the walls of the chest, over the affected part, in lieu of the usual gentle respiratory murmur; and as the disease progresses, and secretion of mucus takes place, when we have a loud, wheezing, and crackling sound, and a kind of bubbling rattle. In the young and healthy the disease is rarely fatal, though it may be very severe; but in the weak and aged, and also in infants, it is often attended with the greatest danger. Exposure to cold and damp air, the inhalation of irritating vapours, and excess of diet, are the usual causes.

Treatment.—Blood-letting may be desirable if the symptoms be violent, but that which is local, by means of leeches and cupping, will usually suffice. The bowels should be freely acted on, and for that purpose F. 4 may be given at bedtime, substituting blue pill for calomel if the patient be weak, and this may be followed in the morning with F. 44, 68, or 70. Antimonials are then our best medicines until the difficulty of breathing is relieved, and expectoration takes place freely; five grains of James's powder, or half a drachm of antimonial wine, every four hours, or F. 75, 76, 111, will answer our purpose: to either of these a little laudanum (five to ten drops to the dose) should be added if necessary, to allay irritation and restlessness, especially at night time, and if the cough be troublesome, F. 117 may be resorted to. Aperients, such as F. 29, 36, 68, will be desirable occasionally. At the first part of the disease, counter-irritation with mustard poultices will be desirable, and towards the latter part a blister may be made use of. In the aged and weak, sudden debility and sinking may come on, which must be promptly met by the administration of stimulants, &c., as will be mentioned under the head of INFLUENZA.

PNEUMONIA, or inflammation of the substance of the lung, is of more importance than where the lining membrane is affected. The symptoms may be much the same, but usually there is a shivering fit before the attack, the pain is generally more acute, the pulse harder and stronger, and the cough harsher and deeper. The patient usually lies on his back. At first there is no expectoration, or it is mere colourless mucus, but in from twenty-four to forty-eight hours it is of viscid character, and assumes a rusty colour, which is very characteristic of the disease. On percussing the chest, that part which is affected gives a duller sound than any other, from the lung having been rendered more solid than natural. On listening at the diseased part, a peculiar crackling noise may be distinguished in lieu of the natural respiratory murmur; after a time this ceases or becomes irregular, and we have a harsh blowing sound, occasioned by the transit of the air through the bronchial tubes, without being able to pass into the air cells, which have become filled up and solidified by the inflammation: the voice will be found unnaturally loud and vibrating when listened to through the walls of the chest.

Treatment.—It must be similar to that of bronchitis, only more decided and

energetic. Blood-letting must be carried to a sufficient extent to abate the symptoms, and usually requires to be from the arm. F. 4, with the subsequent cathartic, must be given, and antimonial medicine must then be resorted to: James's powder, antimonial wine, or F. 76, as before directed, may suffice, but in a violent case of pneumonia the antimonial should be given much more largely. The antimonial wine, or, what is better, a solution of tartarised antimony in water, of similar strength, may be given in teaspoonful doses every two or three hours, so as to keep up a constant nausea. If it cause much sickness or purging, four or five drops of laudaum may be added to each dose. When an abatement of the symptoms is obtained by antimonial treatment, persistence therein, with gradual reduction, is sure to effect the cure. Another good plan of treatment, especially if the patient be not seen until an advanced stage of the disease, and when the time for depletion is gone by, is with calomel, two grains of which may be given every two or four hours, combining each dose, if desirable, on account of purging or general irritation, with half a grain of opium, or one-eighth of a grain of acetate of morphine. In this, as in all other diseases where mercury is requisite, we must be careful not to oversalivate the patient, but must abate the mercurial administration as soon as the mouth becomes sore. It is towards the latter stage of pneumonia that blisters are most beneficial. If the patient begin to sink, support and stimulation must take the place of all other treatment. During the active stage of pneumonia, the diet must be of the lightest character; the patient should be kept very quiet, and the temperature of the sick room should be moderate and equable. There is a very low form of pneumonia often occurring in connexion with typhus fever, in which no depletion, nor even antimony are borne. We must rely on calomel, and opium, and blisters, and the patient will require support and stimulation.

INFLAMMATION OF THE STOMACH.

This is a rare complaint: it is usually the result of the influence of some irritant poison, but may come on from injudicious diet, from drinking cold water when heated, but more especially from intemperance and the excessive use of alcoholic liquors. The symptoms are, a constant acute burning pain at the pit of the stomach, increased on the slightest pressure; retching and vomiting, anything introduced into the stomach being immediately rejected; intense thirst, and a red, rough tongue. There is generally constipation, unless the bowels have been violently irritated as well as the stomach, often hiccup, and the pulse is frequent, small, and hard. Unless relieved, the patient soon becomes exhausted, and sinks rapidly. Spasm of the stomach is distinguished from inflammation by the intermitting and variable character of the pain, which is relieved on pressure.

Treatment.—This should consist in early and copious general blood-letting; if deferred until late it is of no avail. Leeches must be applied abundantly; hot fomentations should be used; subsequently a blister may be applied; a powder of two grains of calomel and a quarter-grain of acetate of morphine may be given every two or four hours. A little ice taken occasionally, small lumps being suffered to melt in the mouth, is an admirable remedy. The relief of the bowels may be effected by the use of an enema, consisting of an ounce or two of castor oil, and a pint or more of thin gruel, but this must not be attempted too early. At a later period of the disease, iced soda water or seltzer water may be taken, combining with it a small proportion of sherry or brandy if the constitutional depression makes it requisite. During convalescence, the management of the diet must be most careful, the food must be given at short intervals, and it must be of the lightest description, such as beef tea or mutton broth, thickened with barley or a little crumb of bread,

animal or isinglass jelly, the yolk of egg beat up with milk; and barley-water, marsh-mallow tea, and milk and water may be drunk, but these will usually be more grateful to the patient if taken quite cool.

INFLAMMATION OF THE STOMACH, CHRONIC.

This constitutes one of the forms of dyspepsia, and much that we said under that head applies to the present subject of our consideration. There are, however, some special distinctions to be made in reference to the complaint when decidedly inflammatory. There is more tenderness over the region of the stomach, more marked pain after eating, and food is often rejected an hour or two after being taken. The tongue has a reddish and slightly swollen appearance, the pulse is quick and sharp, and there is soon much general depression.

Treatment.—This should consist in the application of leeches, if they can be borne, and in counter-irritation by means of mustard poultices or blisters. An alternative should be given each night, such as F. 1, followed by a seidlitz powder in the morning, or by the saline F. 46, so as to promote secretion and regulate the bowels, or F. 38 may be made use of for the same purpose. At a later period of the disease the nitrate of bismuth, in four or five-grain doses, taken three times a day, between meals, will be found of much service, and also the oxide of silver is a good remedy, as in F. 12. Where there is subsequent loss of appetite and want of tone in the stomach, a light bitter infusion twice or three times a day will do good, such as those of camomile, calumba, cascarrilla. But diet is the main ingredient in the treatment of chronic inflammation of the stomach, especially at the outset. It must consist chiefly of farinaceous food, which may be combined with milk. Animal broths and jellies may also be taken, with good plain biscuit or well-toasted bread. Tea and coffee should be altogether forbidden, but good cocoa is unobjectionable. The food should be taken often, and in small quantities at a time; no stimulating liquids should be allowed. When the irritative and inflammatory symptoms are abated, the case will then assume the shape of ordinary dyspepsia, and must be treated accordingly.

INFLAMMATION OF THE THROAT, OR SORE THROAT.

As already pointed out, a sore throat may form part of a cold, which, indeed, is not unfrequently the case, but it may also assume a more severe character, and constitute a disease by itself. An inflammatory sore throat is attended by much pain, sense of constriction, and difficulty of swallowing, and on examination the interior of the throat presents a red and turgid appearance, while there is also an external fulness and tenderness at the upper part of the neck. There is more or less fever.

Treatment.—An emetic, F. 87, at the outset will often do much good. Leeches should be applied to the external surface of the throat, and subsequently a hot bread poultice. From two to five grains of calomel should be taken, and followed up by the aperient draught F. 68. The saline F. 111 may then be made use of, or the aperient saline F. 105, if more suitable. Gargles are of little service, but, at any rate, water, as hot as can be borne, will constitute the best that can be used, and the inhalation of hot steam will be better still.

ULCERATED SORE THROAT.—Inflammation of the throat is apt to go on rapidly to ulceration, when, on examination, we perceive numerous small sores of a whitish colour over the surface of the throat and tonsils, which gradually increase and become deeper. There is usually much fever and general irritation.

Treatment.—The first violence of the inflammation having gone by, the abstraction of blood is rarely requisite, and the management of this disease must be somewhat different altogether. The emetic, the calomel, the aperient, and the salines are desirable; counter-irritation, by the repeated application of mustard poultices, or by blisters, is necessary. The gargle F. 133, used frequently, may be serviceable in removing mucus and cleansing the throat, or, what is still better, the medicated honey, F. 134, may be dissolved in a quarter-pint of warm water, and used in a similar manner. But the best local application for ulcerated sore throat is the caustic solution F. 137. It should be well smeared over the surface, two or three times a day, with a large camel-hair brush. All antiphlogistic and lowering treatment must be speedily abandoned when the throat continues ulcerated, and bark and opium must then be our remedies. Half a wineglassful of the decoction of bark should be taken every four or six hours, or the mixture F. 161, care being taken to maintain due aperient action. Ulcerated sore throat is often infectious.

PUTRID SORE THROAT.—This is constituted by an intense and malignant form of ulcerated sore throat. The internal surface presents an intense vivid redness, and the sores have a dark livid appearance, and spread rapidly. The mouth is covered with dark-brown fur, and the breath is exceedingly offensive. The accompanying fever is of low nervous character, almost from the commencement. This form of sore throat is often connected with scarlet fever, and is occasionally epidemic.

Treatment.—This must consist in the administration of an emetic, F. 87, in the first instance. The bowels should then be freely opened with mild aperient medicine, such as F. 44, 68, or castor oil will suffice, avoiding violent purging. This may be followed up with F. 107. The gargles F. 60 or 133 may be used warm, and the application of the caustic solution, as before mentioned, will be desirable. Bark and quinine must be our chief remedies, and F. 159, 162, may be resorted to; or if the combination of mineral acid be deemed advisable, we may administer F. 161. A blister to the chest or the nape of the neck will sometimes be requisite. If diarrhœa occur to any extent, it should be restrained by such medicines as F. 114, 152; and when there is much restlessness, an occasional anodyne, such as F. 15, 99, may be desirable. Nourishment should be given in every possible form. Strong broth, beef-tea, animal and isinglass jelly, yolk of egg beat up with milk or wine, and if there be great inability to swallow, enemas of broth and beef tea may be administered. Wine of any kind, especially port, brandy, beer, or any other stimulus, may be given alone or in combination, as required by the symptoms. The surface of the body should be well sponged over with vinegar and water, in the proportion of one-fourth part of the former, once or twice in the twenty-four hours, and care should be taken that the room be kept well ventilated, and that there is a free access for pure fresh air.

INFLUENZA.

This is an epidemic catarrh or cold, coming on somewhat suddenly, and accompanied with much general depression. The chest soon becomes very irritable, occasioning much pain, cough, and difficulty of breathing, without much excitement of the pulse or true inflammatory state. The disease may have the character of bronchitis, so that finally there may be much secretion and expectoration of mucus.

Treatment.—This must on no account be too active. A warm water or vapour bath is very desirable at the outset. If the distress of breathing be

great, a few leeches may be applied to the chest, or a few ounces of blood may be taken by cupping, but nothing further. Mustard poultices may be serviceable. The patient should be kept in bed, moderately warm. Three to five grains of blue pill, followed, after a short interval, by a mild aperient, such as F. 44 or 68, should be administered without loss of time, and subsequently some such medicine as F. 75, 76, 111, may be taken every four or six hours, or even three or four grains of antimonial or James's powder. F. 80 is a good medicine when there is much depression, and the cough is very troublesome. When the acute stage is gone by, we must no longer use any lowering means, but resort to such medicines as F. 101, 104, or merely to frequent draughts of seltzer water. To allay cough, which is often most distressing, F. 94, 117, or 120 will often be found efficacious, and we must be careful to keep the bowels acting with some mild aperient, such as F. 29, 36, 38, or the compound colocynth pill. Tonics will be requisite very early in the patient's convalescence, and bark or quinine are the best, and may be administered as in F. 159, 163, to such an extent as can be borne, or F. 146 may be preferable where the stomach is very weak and unequal to food. A light nutritious diet should be allowed through the course of the complaint, but as soon as the patient is recovering, slops and diluents should be quickly abandoned, and a free quantity of solid food, such as mutton, poultry, fish, should be substituted, but without vegetables. Bitter beer, port wine and water, or sherry and seltzer water, may be drunk. The avoidance of cold and damp should be a matter of especial care during convalescence.

ITCH.

This disease is characterised by an eruption of small pimples, with watery heads or vesicles: they may be mattery, or pustules in bad or long-neglected cases. The eruption usually appears in a marked manner between the fingers and at the bends of the limbs. It is accompanied with almost constant stinging itching, which is much increased by warmth, as when in bed. It is highly contagious. Many suppose the disease to depend on the agency of a very minute insect, of which the presence is certainly discoverable in a majority of instances: personal uncleanness tends much to the maintenance of the disease and to promote its propagation.

Treatment.—Sulphur is the best remedy, and the following is the most efficient way of using it:—Prior to going to bed, the patient should have the full enjoyment of a warm bath, with plenty of soap; he should then be well anointed over with an ointment composed of half an ounce of carbonate of potash dissolved in a little water, and six ounces of flowers of sulphur intimately combined with half a pound of hog's lard; and this anointing, without any washing, should be made use of for three following nights, or more often if deemed requisite, and the patient should then have another bath. The clothes first worn, as well as those used during the process, should undergo thorough purification by boiling. Another mode of treatment is by means of the following lotion: eight grains of corrosive sublimate or bichloride of mercury, dissolved in a little spirit of wine, should be added to two tablespoonfuls of Burnett's disinfecting solution, which is solution of chloride of zinc, and this should be mixed with a pint of water, applied night and morning over the surface of the body and limbs where the eruption is apparent, and should be suffered to dry in. A week usually effects the cure, and when the skin is not in a state of dirt and filth, it may be used without any warm bath. A little common aperient medicine, such as salts, sulphur, or the pills F. 36, 66, may be useful in promoting the cure. Friction with camphor liniment is also said to remove the disease.

JAUNDICE.

This disease is indicated by a yellow or greenish yellow colour of the skin and of the white of the eye, by clay-coloured stools, and by saffron-coloured urine, which stains the linen. Jaundice may be of three kinds:—1. It may depend on the passage of the bile through the gall-ducts being impeded in some part of their course; this may be caused by gall-stones, or some external pressure from enlargement of the right kidney, loaded bowels, or from some tumour; the bile can no longer be excreted, it is pressed back into the intimate substance of the liver, where the veins take it up, and convey it into the general circulation, whence it is attached to the skin by some peculiar chemical affinity, and there detained. 2. It may be occasioned by acute chronic disease of the liver, when the excreting biliary ducts are in some way interfered with, and the impeded state of the portal system will often occasion abdominal dropsy. 3. The common kind of jaundice depends on an inactive or paralysed state of the excreting structure of the liver, which suffers the bile, when formed, to pass on into the general circulation: there is a variety of this kind of jaundice which is highly dangerous, when the inactive and paralytic state of the excretive action extends to the secreting and other functions of the liver, which seems to lead rapidly to a process of disorganization. The common kind of jaundice is often preceded by languor, inactivity, nausea, loathing of food, and disturbed sleep. In addition to the special symptoms mentioned in the first place, the tongue is much furred, and the bowels are generally costive, the skin is dry, and there is often pain and tenderness over the region of the liver; the pulse is rarely quick. In the dangerous form, we find, from the commencement, there is much constitutional depression, the surface is cold, and the respiration is laborious.

Treatment.—Jaundice of the first and second variety is merely a symptom, and must be treated accordingly. (See GALL-STONES, INFLAMMATION OF THE LIVER, and LIVER COMPLAINTS.) Of the third kind, however, we must speak more fully. An emetic should be given in the first instance, F. 87; a warm bath is subsequently very desirable. The bowels should then be freely acted on with five grains of blue pill, or two to five grains of calomel, followed at some short interval by the aperient F. 44 or 68. Subsequently aperient salines, such as F. 46 or 105, should be given. A mustard poultice should be applied once a day over the region of the liver. By these means, with the addition of an occasional alterative, such as a compound calomel pill, if required, we can generally get rid of a common attack of jaundice. If the patient become low, nourishment, and even stimulus, should be given freely. During convalescence such tonics as F. 146, 149, 150, will be useful. In the severe and dangerous form of jaundice to which I have alluded, we must be careful to support the patient by every means in our power. A large blister should be applied over the region of the liver, the bowels should be kept freely acting by warm aperients, such as the compound decoction of aloes. An enema of half a pint of thin gruel, with one ounce of turpentine, may be thrown up twice in the twenty-four hours, and a mild mercurial action should be set up. Chronic jaundice may be a result of liver complaints.

LEPROSY.

This is a rare disease, and in this country and temperate climates generally is only met with in a mild form; but in the East it is common, and assumes a severe character, where it is often contagious. It consists in an inflamed state of the skin, of which the surface is roughened and elevated in patches,

which are more or less covered with whitish scales. The limbs are usually more affected than the trunk.

Treatment.—Warm baths should be used occasionally; and in the first instance the ointment F. 62 may be applied night and morning to the parts affected, and at a later period the weak citrine ointment may be substituted, and medicine, composed of half a drachm of solution of arsenic, half a drachm of iodide of potassium, and one ounce and a half of compound tincture of gentian, a small teaspoonful of which should be taken twice or three times a day in a little water: this medicine must be lessened or increased in quantity according to the effect produced, and the bowels should be kept in a regular state with any mild aperient medicine.

LIVER COMPLAINT OR DISEASE.

We have already spoken rather at large on the subject of bilious complaints, under which head are included those affections in which the secretion of bile is especially interfered with. The disturbance of the blood-changing function of the liver was also alluded to, and it was briefly shown what important influence may thereby be exerted on the general system. It is acknowledged by the first medical philosophers of the day, that an alteration of the proportion in which the blood globules and fibrine exist in the blood constitutes a most important characteristic of many diseased states, and it cannot therefore be otherwise than that, if the globules be not duly decomposed, nor the fibrine undergo its due conversion, some constitutional morbid state must be occasioned. Again, the hepatic influence may be active in reference to only one element of the blood; on the other hand, the blood changing function may be unduly active in reference to one or more elements, and thus constitute a constitutional morbid state of different character. Diabetes is an instance of this, as it is proved that sugar is a natural product of the liver, and the disease in question merely consists in its formation to excess, so that it appears in the urine. The biliary and blood-changing functions must have close connexion and exert a strong mutual influence; for example, it is some peculiar relation between the two that occasions the various forms of fatty disease of the liver, which consists merely in an excessive deposition of fat in the biliary cells; and again, in the fatal form of jaundice to which we have alluded, the two functions are evidently both implicated.

We will now speak of a peculiar well-marked mode of institution of disease of the liver, and though it refers chiefly to the chronic form, yet my remarks will in some way be applicable to acute inflammation. If the blood which the portal vein conveys to the liver be impure, viscid, and containing much foreign matter, we may feel assured that the bile-secreting and blood-changing functions of the liver will be affected thereby; but in addition to this, the structural organization of the liver will also be apt to undergo a morbid impression; its fine vascular structure may suffer such stimulation and irritation as will make it assume an unhealthy state, and in this manner chronic and even acute disease of the liver may be originated. Thus, therefore, a state of excitement of the liver may influence both its portal and true structural organization, causing a considerable deposition of substance, and thereby occasioning considerable enlargement of the entire organ. The state may continue for a shorter or greater space of time, giving rise to more or less inconvenience and constitutional disturbance; at length, however, inflammation sets up in the structural organization, causing further deposition of substance, which gradually becomes dense and contracts. In the meantime the portal supply of blood is hindered and interfered with; that deposit which it occasioned in the first place becomes absorbed; and at the same time the liver shrinks and alters in its

texture, so as to interfere still more with the portal circulation: abdominal dropsy then supervenes, and the patient becomes worn out. Suppuration, or the formation of an abscess in the substance of the liver, may also result in its congestion and enlargement, the subsequent acute or chronic inflammation tending to that result, probably owing to some peculiar condition of the blood.

What are the causes of liver complaint? In our temperate climate its occurrence is rare, except from intemperance and scrofula. In the former instance, the continued stimulation by the unwholesome portal blood, as I have already pointed out, is the cause of it; in the second instance it is the result of a general deterioration of the entire mass of the blood, though, perhaps, still more especially of the imperfect and ill-concocted material which makes its transit through the portal system. A blow or a chill may hasten the development of any diseased state. In hot countries intemperance and scrofula also tend to cause disease of the liver, but the peculiarity of the climate has very much to do with it: exposure to the heat causes a great drain of aqueous fluid, and its undue separation leaves the blood in an inspissated and unnatural state, so that it circulates sluggishly through the liver, and tends to become congested therein. But if, in addition, there be exposure to the chill damp of the night air, the cutaneous circulation is checked, and the tendency to internal congestion will be still further promoted, and this more especially affects the abdominal organs, as the temperature is not sufficiently low to cause the lungs to become preferentially implicated, while at the same time they are so slow and sluggish in their action as to cast an additional burthen on the liver.

The most prominent symptoms of liver complaint are a sense of weight and uneasiness in the right side, and perhaps pain, but that more especially at the top of the right shoulder and in the back; there is a degree of fulness over the region of the liver, which, on examination, can often be detected as being enlarged and even indurated; the tongue is habitually more or less furred; the appetite is impaired or capricious; the bowels are irregular and unnatural in their action; the urine is high-coloured; the pulse is quick and sharp; there is more or less cough, and the respiration is often oppressed; the patient generally cannot lie on his left side; there is a sallow complexion, and the countenance is usually somewhat anxious.

Treatment.—This must evidently consist in endeavouring to restore the healthy functions of the liver, and generally very much has to be done in improving the general health. Aperient action is one of the first items of treatment, and we should get the alvine evacuations in as healthy and regular a state as possible, combining alteratives with the purgatives as far as requisite: for this purpose we may give the compound calomel pill, or three or four grains of blue pill every night or every other night, for a short time, following it up in the morning with a Seidlitz powder, an ounce and a half of compound decoction of aloes, or one of the rhubarb draughts, F. 43, 44, 45, according to circumstances: subsequently, when there is a torpid state of bowels, the pills F. 36, 37, 38 may be used occasionally. If the alterative action does not seem to have sufficed, tumefaction and tenderness persisting over the region of the liver, then friction every night or every night and morning with the liniment of mercury will often do good, or the antimonial ointment, F. 140, may be used, so as to bring out a pustular eruption. A warm bath, at 95 degrees, twice a week, is useful. Mild tonics in combination with aperients, salines, or alkalis, may be given when the disease begins to subside: F. 47, 146, 149, 150 are good examples. Where the disease of the liver is of very long standing, there are two medicines which, taken perseveringly, are often productive of advantage: the one is the decoction or extract of dandelion, which may be taken twice a day with ten or fifteen drops of solution of potash; the other is the

compound decoction of sarsaparilla, one quarter-pint of which, or its equivalent in any concentrated form, may be taken three times a day with from one to five grains of iodide of potassium. For diet and regimen we may act according to the rules which are laid down for dyspepsia, but we must remember that in many cases the avoidance of all alcoholic, vinous, and other fermented liquors is very desirable.

LUMBAGO.

This is a rheumatic affection of the muscles of the loins: it is indicated by stiffness and local pain, which is aggravated by any movement. It may be attended with the ordinary febrile symptoms of rheumatism, when it must be submitted to the usual general treatment. Often, however, depending on the local application of cold or damp, as from exposure to a draught, rain, &c., it may be an isolated affection, mostly connected with the part itself, and not affecting the constitution. The same is the case with many other local rheumatic attacks which affect various muscles: they often come on very suddenly.

Treatment.—This complaint may usually be got rid of speedily with a warm bath, a few grains of James's powder at bed-time, and a black draught in the morning, or two or three repetitions of the pills F. 33. When the affection is more permanent we may try one teaspoonful of the compound tincture of guaiacum in a little water, or half a wineglassful of the mixture of guaiacum, three times a day; and at the same time friction with the liniment F. 135 may be employed night and morning. In very obstinate cases the iodide of potassium may be taken in doses of from two to five grains, three times a day; and sometimes the pills F. 157 may be serviceable. When the lumbago, or indeed any local rheumatism, has come on very suddenly, it is surprising how much benefit, and that at once, may result from the application of a considerable degree of heat. Thus flannels wrung out in hot water may be applied before a fire at as high a temperature as can be borne. Another remedy which is often productive of the most sudden and surprising benefit, is acupuncture, which consists in the insertion in regular order of from three to six good-sized needles into the flesh obliquely over the part affected, to the depth of from a half-inch to one inch, and leaving them in ten minutes or a quarter-hour: these may be introduced by a firm, decided push, or may be wriggled in gradually with a rotary motion, and they will occasion little or no pain.

MEASLES.

This is one of the eruptive fevers, which usually occurs at an early period of life. It is of an infectious nature, and is rarely met with twice in the same person. After some preceding chilliness we have usually the feverish symptoms of a cold, which are sometimes very severe. The eyes are red, especially at the inner corners, and water much; there is great running from the nose, hoarseness, and a dry cough. About the third day the rash makes its appearance in clusters of small red spots, somewhat raised above the level of the skin, which give a feeling of roughness and inequality to the touch; these gradually become brighter and larger, running more into one another. The eruption then spreads over the neck, trunk, and limbs. About the third day it begins to fade and assume a brownish tint, gradually subsiding in the same order as it came, and within a week a slight scurfy desquamation ensues. The disease may not be properly developed in the first instance when the eruption is slow and imperfect in its manifestation, and there is much consequent oppression of the system. It may be of low typhoid character, when the eruption assumes a dark purplish colour, and there is much delirium, or it may be complicated in any

part of its course with inflammation of the lining membrane of the throat or lungs. In serofulous subjects measles will often leave a morbid impression, rousing up the unhealthy tendencies of the constitution.

Treatment.—In the first instance it is desirable to promote the appearance of the eruption, and if sluggish it may be done by a warm bath and a gentle emetic, F. 87. If the bowels be confined, or the tongue much furred, a mild aperient may be given, such as F. 42, 52, or castor oil; if not, it is best left alone. Subsequently a saline, such as F. 78, 103, 111, may be administered at intervals; and if the chest be very irritable, and there should be much cough, then the emulsion F. 116, or the drops F. 117, may be prescribed. As the disease subsides, the bowels should be kept gently acted on for a few days by the same means as already directed. Low diet should be observed, and warm soothing diluents should be drank during the continuance of the eruption. The low typhoid form of measles must be met with stimulants, and even tonics, especially with bark and ammonia, as in F. 159; and if pulmonary inflammation occur, it will require appropriate treatment, and blisters will be especially serviceable.

MORTIFICATION, OR GANGRENE.

This means the death of some part of the body, while the rest continues alive, sometimes even in a sound state. Gangrene may be moist or dry, and the former, of which we will now speak, is of the most common occurrence. We have pointed out that mortification usually results from inflammation, and when this is the case all sensibility and pain in the part is suddenly lost; it is dark and livid, it loses its natural heat, the swollen state subsides, and the part acquires a fœtid smell and a pulpy consistency. If the mortification extend, great constitutional irritation results, and the patient soon sinks and dies. With this form of the disease there is generally a power of resistance and reaction in the constitution which shows itself by ulceration and suppuration, more or less extensive, round the diseased part. Severe injuries, such as fractures and burns, or erysipelas, are the chief causes which lead to gangrene, but there is commonly a peculiar constitutional state which favours its occurrence.

The treatment of moist gangrene, at its outset and during its course, consists chiefly in allaying irritation. The bowels should be freely relieved with a mercurial dose, two or three grains of calomel or five grains of blue pill, or even F. 4, followed at a short interval with F. 44 or 68; but if the fever do not run high, two of the pills F. 36, repeated at intervals, if necessary, will suffice to relieve the bowels. Subsequently the effervescing saline, F. 102, may be given every four hours, or F. 104 may be preferable, and between the doses a pill containing calomel and opium, of each one grain. Warm fomentations or light poultices should be kept applied in the first place, but when the gangrene becomes open, more stimulating applications must be used, such as two ounces of spirit of camphor, or of tincture of arnica, in a pint of warm water: this should be applied by linen rag or lint wrapped round the part and kept constantly moistened. When the gangrene is still more advanced, Burnett's solution of chloride of zinc, or the solution of chloride of lime or soda, should be made use of, diluted in the proportion of one tablespoonful to half or three quarters of a pint of warm water: they may be applied as the other lotion, but the comfort of the patient often demands the continued use of warm poultices, when the lotion should be sprinkled over them. As soon as the strength begins to fail, the treatment will require alteration. All mercurial administration must cease, but that of opium should be continued, either in the solid form, or in the shape of from ten to twenty drops of the tincture combined with the other requisite medicines, which are bark, quinine, or ammonia, as in F. 159, 160, or 163; or the carbonato of ammonia may be taken

in doses of from five to ten grains, with the laudanum and a little camphor mixture. The diet should be light, but nourishing, at the commencement of the disease, but towards the latter part it must be of a much more stimulating character.

Dry gangrene may arise from age and debility, when the supporting and stimulating treatment may be resorted to at once. It is also very often connected with disease of the arteries leading to the part affected, when in the first place our treatment must be as soothing as possible, with opiates and warm applications, but stimulant and tonic means may subsequently be desirable. The pain is often excessive. When mortification threatens from exposure to extreme cold, friction with snow and cold water must be resorted to in the first instance, and some very mild stimulus, such as warm tea, or a little weak wine and water, should be given: a dose of fifteen or twenty drops of laudanum is also advisable. Should the part mortify, it must be treated locally in the usual manner.

MUMPS.

This disease consists in a painful swelling of the large salivary gland called the parotid, which is usually situated between the jaw and the ear: it often extends to the glands beneath the lower jaw, or submaxillary; the swelling sometimes assumes a large size, and may affect one or both sides. The disease is contagious, and often epidemic, and usually attacks young people; it lasts from four to seven days, and may be accompanied with more or less feverish irritation. If the swelling should be suddenly repressed by exposure to cold, delirium may take place, and in such case also, or even where the tumefaction is subsiding naturally, the inflammation will sometimes be transferred to the breast in females, or to the testicle in males: this is essentially the case in adults.

Treatment.—Two to five grains of James's powder, with a few grains of nitre, should be given at bedtime, and in the morning a mild aperient, such as F. 42, 49, 68, and afterwards mild saline action may be kept up with such medicines as F. 103, 105. Warmth should be applied by means of fomentations and hot bran poultices, and when the acute stage is over, the swelled part may be well rubbed with the anodyne liniment F. 19. If the disease be transferred to the breast or testicle, the application of a few leeches in addition to the application of warmth, and the administration of mild aperient salines, such as Seidlitz powders, or F. 46, must constitute our treatment. Excessive pain may make an anodyne requisite, when ten grains of Dover's powder, or F. 100, given at bedtime, will answer the purpose.

NERVOUS DISORDER.

This embraces a large class of complaints. The nerves may be weak or excited, or irregular in their action. Hysteria comprises many forms of nervous derangement, but there are numerous anomalous cases constantly occurring, and often combining both debility and excitement, which are not recognised under that head. By way of distinction, we may say that hysteria is usually connected with a constitutional predisposition, whereas nervous disorder is an acquired malady, and its origin and course may thus be traced. Supposing that we have undue irritation or excitement, or even bodily inactivity, they may soon entail weakness of the digestive and secretive organs, or want of power in the heart's action, or a general loss of tone to the muscular system: thereon may be founded a state of undue local or general sensibility, which at length will apparently constitute the head and front of the complaint. Thus, then, we have nervous headache, sleeplessness, unnatural fancies, vain fears,

various local pains, &c. &c. The second degree of irritation and excitement thus arising tends to promote a still greater degree of nervous exhaustion, causing more and more lassitude and inactivity: the mind becomes enervated, the self-abandonment increases, and there is loss of moral self-control. Such is the outline of a severe case of nervous disorder, and, with modifications, it will usually be found more or less applicable to all attacks of the kind. Nervous disorder may assume the appearance of acute inflammatory disease, and a mistake in reference thereto is one of the most pernicious errors to which medical practice is liable. Many an unhappy patient is blistered and depleted until his or her life has been rendered one continual ailment, or they may deem themselves fortunate to have made a lame escape from the fangs of science into the doubtful realms of hydropathy or homœopathy. But how different might it have been, had common sense and discernment directed the patient and his physician. The failure of the digestive and secretive faculties would have been perceived, the weak and irritable state of heart would have been noticed, the loss of muscular strength would have been accounted for, and the mode in which they originated would have been recognised. The causes would have been sought out and removed, and direct means would have been taken to counteract the derangement of the constitution; the diet would have been regulated; the inactive circulation would have been roused; muscular exertion would have been enforced, and digestion and secretion would have been efficiently promoted. This being effected, the train of nervous symptoms would gradually have vanished, and health would have been restored. In cases of nervous disorder, little medicine is requisite, and that of the mildest description. Aperient, alterative, stomachic, and tonic forms will be found among the prescriptions, and may be selected from according to the indication which has to be fulfilled; but medicinal administration is a very minor portion of the treatment. A regular course of life must be adopted, in which a light and nutritive diet, early rising, out-door exercise, and the free use of cold water are important items. Change of scene and mode of living, with such an amount of physical exertion as will ensure a wholesome degree of fatigue, will allay nervous excitement and divert it into a more healthy channel, so that the mental and moral faculties will speedily resume their tone. Much, however, depends on a due relation being established between the patient and his physician. The patient must summon up all his moral strength and resolution to submit implicitly to control and guidance; while the physician, having once determined the requisite mode of treatment, must insist on its thorough fulfilment. In exercising his controlling influence, he should combine firmness with kindness, and there should be no lack of persuasion and encouragement to induce the patient to pursue a steadfast course.

NETTLE RASH.

This is an eruption, which is so called from its resemblance to the rash produced by the stinging of nettles. It is usually a mild disease, but sometimes is attended with much fever. It is often occasioned by exposure to damp or heat, but depends especially on a disordered state of the stomach, which renders the skin irritable by sympathy. Eating fish, especially shell-fish, will often in itself give rise to the complaint in some individuals, and it may even originate from other articles of diet.

Treatment.—A mild emetic of ipecacuanha, or according to F. 87, will generally be very beneficial, especially if any food seem to have disagreed recently. A mild aperient, such as the pills F. 36 or 38, followed by a Seidlitz powder if requisite, may subsequently be given; or, for a child, the powders F. 50 or 73 may be used. If aught else be requisite, we may resort to F. 46, 103, 105, as

seems desirable. If the itching is intense, or the disease be obstinate, warm baths, at a temperature of 96 degrees, may be desirable. The diet should be light and cooling, but milk will rarely agree.

NEURALGIA

Is a pain affecting any of the sensitive nerves in some parts of their course: this may either be of acute, darting character, or it may give an aching, numbing sensation. When neuralgia attacks the great nerve of the thigh, it is called sciatica, and when it affects the face, it is called tic douloureux, but it may affect any part of the system, the eye-ball for example, and the left side; in females the last is of very common occurrence. It seems to depend on excess of the sentient endowment, and is usually merely functional, originating in some local cause, such as cold, or in some constitutional irritation, such as indigestion. There is usually more or less general debility. Some few cases of neuralgia depend on organic disease, such as an inflamed state of the nerve, of disease in some distant part of the nervous system, or again on the nerve being pressed on, or irritated by some tumour or point of bony growth, but this is comparatively rare.

Treatment.—However acute the pain, depletion is never requisite, but does infinite mischief. We must search for the cause. If there be a catarrhal or rheumatic state, it must be relieved by appropriate treatment: bilious or dyspeptic derangement must be obviated; any unhealthy state connected with female health must be carefully attended to. This done, we must resort to tonics. Iron, in the first place, is most valuable, especially when the system seems impoverished, and there has been much debility about the digestive organs; twenty grains of the sesquioxide of iron may be prescribed twice or three times a day, or the citrate, according to F. 164. In the second place we have quinine, which is preferable where the digestion has not been much deranged; but where there has been a general lack of tone in the system, and a want of nervous energy, it may be given as per F. 157, 163, and F. 165 is an elegant mode of administration. As to external applications, a warm bath sometimes does good; locally, warm applications, moist or dry, may be tried, and a muslin bag filled with hops and well soaked in hot water may afford relief. The anodyne liniment, F. 20, rubbed in every fourth hour, is often useful, and still more especially the veratrum ointment or solution. Obstinate cases of neuralgia often require the strictest attention to diet and general regimen.

NIGHT-MARE.

This is a peculiar nervous sensation occurring during sleep, or on the verge thereof. I believe it to depend essentially on spasm of the heart, which may be occasioned by indigestion, nervous exhaustion, or low spirits. There is a sense of constriction and oppression on the chest, which grasps and crushes the unfortunate victim, giving rise to all sorts of horrible imaginings. The treatment may be that of indigestion or any peculiar nervous state to which the origin of the complaint can be traced, but above all things the sufferer must beware of taking rich and heavy suppers within a short time of retiring to rest.

PALPITATION OF THE HEART.

This depends on violent and irregular contraction of the muscular structure of the heart. A throbbing is where the motion is violent and regular; a fluttering is where it is weak and irregular. The palpitation is often chiefly experienced at the epigastrium or pit of the stomach, which depends generally

on the impulse of the heart, or that which takes place in the aorta or first great artery, being transmitted through a flatulent stomach. Palpitation of the heart may be connected with a state of nervous excitement, especially hysteria, or it may be connected with organic disease of the structure of the heart. It is, in fact, a mere symptom, and must be treated according to the disease in which it originates. A small teaspoonful of compound spirit of sulphuric ether, or eight or ten grains of carbonate of ammonia in water, or ten drops of spirit of camphor on sugar, will often afford relief to the distressing sensation which is occasioned.

PAIN IN THE STOMACH

Is a common symptom of disease. It varies much in degree and character, being sometimes intense and acute, sometimes dull and aching; it may be constant, or it may be intermittent. It is most commonly caused by indigestion, and may be experienced immediately after taking food, or at any time within from two to eight hours, amounting to violent spasm, or merely a gnawing sensation; an acid secretion of the stomach itself, or an acid conversion of the food, is very often connected with the latter kind of pain. Then we have what is termed a pain in the chest, of very common occurrence. There is a dull heavy sense of pain and oppression, which seems constant, or it may occur especially when the stomach is empty; it appears to be connected with a peculiar nervous condition of the left end of the stomach and its oesophageal opening, and depends decidedly on a state of debility. The mixture F. 147 is an exceedingly useful remedy in this complaint. We will not here further discuss the subject of pain in the stomach; suffice it to say, that it may depend on organic disease of the organ, such as inflammation, ulceration, cancer, &c., or it may be sympathetic of very numerous constitutional complaints. We must not, however, confound pain in the stomach with those which originate from the liver, bowels, &c.

PALSY, OR PARALYSIS.

This disease consists of a loss, more or less complete, of the power of motion in certain parts of the body, and may be more or less extensive. This may be accompanied by loss of sensation to a greater or less extent, and which, indeed, may be the primary disease. The most intense form of paralysis accompanies apoplexy, and then the deprivation of sensation, as well as power of motion, is very complete. In simple paralysis the faculties of the mind may or may not be much affected, but they are never placed so completely in abeyance as in the apoplectic form. We have three varieties of paralysis: 1. Hemiplegia, when the entire of one side of the body is affected; 2. Paraplegia, when the lower part of the body is attacked; 3. Local paralysis, when only some minor part of the body is implicated.

Paralysis may depend on disease of the brain or spinal marrow, or merely of the nerves of the part affected. When the brain is the seat of mischief, the causes may be similar to those of apoplexy, and, indeed, the paralytic state may be the consequence of the apoplectic attack, or the paralysis may be the result of chronic disease of the structure of the brain, caused by imperfect circulation in old age, by the pressure of tumours, &c. From these causes we are apt to have hemiplegia; but there may be only local paralysis, such as that of the side of the face or of one arm, especially in the first instance. The attack may be sudden and complete, but most often, when unconnected with apoplexy, it is gradual, and its first indication will be some slight loss of local motive power, or want of muscular control, giving rise to convulsive twitches, or there may be a sense of numbness or chilliness; the speech may be indistinct or imperfect;

the memory and judgment may be impaired, or there may be unwonted degree of irritability. When paralysis results from disease of the spinal marrow, it affects the lower limbs, and even the lower part of the trunk; if gradual in its access, there will at first merely be slight numbness and stiffness of one or both the lower limbs, which, as it increases, will occasion a dragging gait, and difficulty in walking and preserving the balance even when standing. The bladder loses its contractile power, so that, at first, the urine is expelled slowly, and with difficulty, and subsequently, when the more powerful muscles at the neck of the organ are implicated, then the urine can no longer be retained, but dribbles away involuntarily. From a similar cause, affecting the lower bowels, they are at first costive, but finally there is no power of retaining the motions. This form of paralysis may continue for years, and finally prove fatal, by exhausting and wearing out the patient. Paraplegia is often the result of an injury to the spine, when the symptoms are more immediately severe, and the fatal result occurs much more speedily. Local paralysis is that which affects some particular part. As already mentioned, it may originate in some disease of the brain, or it may depend merely on the local affection of the nerves of the part. The leg, the arm, the hand, &c., may be attacked, losing motor or sensitive power, or both of them. The face is most apt to be affected, probably from its greater exposure to the influence of temperature. There may be loss of sensation of the whole of the side of the face, or perhaps only of one particular part; nearly all the muscles of one side of the face may lose their power of contraction, or perhaps only one or two, as, for example, the one which raises the eyelid, or two or three which are connected with the lower jaw. It is of the greatest consequence to distinguish the paralysis which is purely local from that which is of cerebral origin, but the history of the symptoms, the more general suddenness of the attack, and the absence of constitutional disturbance, will generally characterize the first form of complaint pretty distinctly.

Treatment.—The acute form of paralysis will require the treatment of apoplexy. When it remains as a sequence of apoplexy, or depending on chronic disease of the brain, counter-irritation to the nape of the neck, by blisters or by a seton, will be necessary, and also the administration of alteratives, such as the compound calomel pill or F. 1, 3, every night or night and morning. Mild aperients are desirable from time to time, such as F. 42, 44. When paralysis comes on slowly, or in a debilitated constitution, depletion must be avoided, or, at any rate, cupping from the nape of the neck, if there be any appearance of vascular congestion, will suffice; blisters may be used, but mercury must be sparingly administered, and the aperients may be more freely given, but of warmer and more stimulating character than in the former instance. The compound decoction of aloes twice a day, or F. 30, 35, 43, 45, 47, or 106, twice or thrice a day. Under this treatment the patient may recover more or less, or the disease be arrested, and it should then, for the most part, be left to time, carefully maintaining the action of the bowels, for which purpose, such pills as F. 31, 32, 34, or 145, will sometimes suffice, and at the same time tend to promote digestive action. The diet should be carefully regulated, according to the state of the constitution, and unless the paralysis depend on mere debility, all stimulating fluids should be carefully avoided. Various medicines, such as strychnine, turpentine, guaiacum, have been recommended, and may be useful where the disease has become chronic, and depends on debility. If paralysis has been occasioned by an injury of the spine, perfect quietude is requisite, in the first place, combined with such local and general treatment, antiphlogistic or otherwise, as the nature of the case demands; if, however, it depend on affection of the spinal marrow, or even disease of the bones, counter-irritation is our best remedy by means of setons, issues, blisters, croton oil liniment F. 139, or the antimonial ointment F. 140.

Local paralysis generally depends on exposure to cold and damp, and when occurring in the face, in the form of loss of muscular power, is often attended with much pain, and thus seems to partake of rheumatic character. In such case the pills F. 33, repeated twice or more, may afford relief, or F. 4 or 80 may be given at bedtime, and an ordinary aperient, such as F. 68, in the morning; hot fomentations should be applied to the face. If a painful inflammatory state persist, the gentle administration of colchicum, as per F. 112, 113, may be advantageous. Hot fomentations may be used to the face where there is much pain, and whether such be the case or otherwise, blisters, applied at a short distance from the part affected, may be very beneficial. The same form of local paralysis may attack other parts besides the face, but it is rarely the case. Local paralysis, which consists merely in loss of the muscular power of a part, may occur in any part of the body. It should be treated with stimulating applications, such as mustard poultices, friction with the compound camphor liniment, F. 135, or even F. 139, or with blisters. Electricity or galvanism will also be available in chronic cases. When the complaint is supposed to depend on cold, the powder F. 4 may be taken at night, and the draught F. 44 or 68 in the morning, and, in any case, some mild aperient will be desirable. When, however, it originates in constitutional debility, and an impoverished state of the blood, tonics are required, and the sesquioxide of iron, administered in doses of twenty grains three times a day, will generally be found superior to any other remedy. Quinine, as per F. 155, 156, or 163, will sometimes prove very beneficial.

Paralysis from lead generally affects the hands and arms. The local treatment should be of stimulating character, as already laid down; it is also desirable that the hand or arm should be supported with splints, and all contact with lead must be carefully avoided. Small doses of Epsom salts, from a half-drachm to a drachm, should be taken three times a day, so as to keep the bowels gently open, or F. 107 may be made use of.

SHAKING PALSY.—This consists in a constant tremulous agitation of the head or limbs, which cannot be controlled by the will, and when voluntary motion does take place, as in walking or grasping with the hand, it is often irregular and imperfect. It seems as if motor power were constantly being developed, but as if the power of regulating and concentrating it were partially lost. At the same time that the motive agency is in this state of peculiar excitement, there is a general loss of nervous power on the whole, and constitutional debility will increase gradually until the patient sinks exhausted. The disease usually occurs after middle life, and is an accompaniment of age. Its occurrence may, however, be promoted by the influence of cold and damp, by intense mental exertion, by exposure to mercurial vapour, or by indulgence in spirituous liquors. The muscular action in St. Vitus's dance is much more violent, and its attacking the young rather than the aged also serves to distinguish it. In the aged, treatment will be of little avail; we can only support the patient, and endeavour to improve the general health, but we shall do well especially to take care that, at the same time that the diet is nutritious, it should be as light and digestible as possible. If any special treatment be required, it should consist in the application of stimulation to the region of the spine, especially near the nape of the neck, by stimulating liniments, mustard poultices, and blisters. The aperient and stomachic treatment, as recommended in general paralysis from debility, can also be pursued.

PILES, OR HÆMORRHOIDS.

This complaint consists in small tumours, situated at the edge of the anus or fundament, when they are called *external*, or within its circumference, at a variable distance from the aperture, when they are called *internal*; they may be only one, or many. These tumours are constituted by veins, which have become enlarged from relaxation, irritation, or distension; if they have burst, they are termed open or bleeding piles, whereas previously they are known as blind piles. Piles sometimes occasion much inconvenience, especially in riding or sitting, and often this is not a little relieved by their bleeding. Inflammation is apt to occur in the cellular structure in the neighbourhood of these piles, rendering them doubly painful, and causing much increase in the swelling, which often remains even after the inflammation has subsided. This inflammation also often causes the formation of a small abscess, and it may also lead to the ulceration of the surface of the piles, which is more especially the case when the disease is internal. When internal blind piles are numerous, the irritation arising from them sometimes causes their becoming unduly protruded, often dragging the bowel more or less down with them, which may occasion much pain and inconvenience, and even there may be some difficulty in returning the tumour. Habitual constipation, general debility and relaxation, or a congested or diseased state of liver, predispose to piles; violent riding, high living, too sedentary an employment, excessive use of purgatives, especially aloes, tend to bring them on, and they are very apt to occur during pregnancy.

Treatment.—This must be guided by the nature of the case. We must carefully obviate the confined state of bowels or congested condition of liver with which piles are most generally connected, and this must be done by mild laxative medicines, such as the electuaries F. 39, 40, or even the confection of senna alone; and where there is much inaction of the liver, an alterative, such as the compound calomel pill, or F. 1, 3, may be given at night several times, and even a Seidlitz powder in the morning may be desirable. When piles assume a more chronic state, a portion, the size of a nutmeg, of the confection of black pepper should be taken three times a day, either by itself or with an equal quantity of confection of senna; but at any rate the bowels must be kept open. Balsam of copaiba, as prescribed in F. 130, may be very useful where the parts affected are much relaxed. Where there is an irritable state of system, with inaction of the bowels, F. 107 will often be found of service; and where there is debility, a grain of quinine may be added to each dose of the mixture, or the use of such medicines as F. 162 or 166 may be desirable. As local applications, leeches and warm poultices may be necessary, where there is much inflammation. Where there is much irritation, the constant application of cold water by bathing or wet pads will do good, or other cold application, such as F. 123, 124, may be useful. Cerate of lead, or F. 62, or citrine ointment, diluted with an equal quantity of spermaceti ointment, may be applied, the diseased part being well washed before each application. The bleeding from piles may be profuse, but it is easily arrested by the application of a cold lotion composed of alum and zinc, each twenty grains, to a quarter-pint of water, or by gentle pressure. The removal of piles by ligature, or by cutting, may be necessary when they occasion much inconvenience. Bleeding from piles may afford some relief in a plethoric state of system, when the hæmorrhage must not be suddenly arrested; but we must remember that they are much more generally connected with a relaxed and debilitated condition of the system. To obviate the causes of piles already enumerated must be the first object of our study, and by improving the tone of the stomach with such medicines as F. 147, 149, 150, or the mineral acid drops, F. 6, in any light

bitter infusion, such as those of cascarilla, gentian, &c., according to the indications, by maintaining the action of the bowels with the means already pointed out, or with the pills F. 38, and by regulating the diet and exercise, we can generally ward off or avert the attacks, and prevent their assuming a very troublesome character. We should regard piles for the most part as indicating some peculiar constitutional disturbance, rather than as a disease in themselves. Other diseases of the rectum or lower bowel, such as fistula, stricture, &c., may be mistaken for internal piles, and the judgment of an experienced surgeon is often required to arrive at a correct opinion on the subject.

PLEURISY.

This consists of an inflammation of the membrane that lines the chest, or of that which covers the lungs. The latter form is usually in connexion with inflammation of the substance of the lungs, and assumes its symptoms, which have been already described: this combination is sometimes distinguished as peripneumonia. There is often, however, simple pleurisy, and of this the symptoms are somewhat distinct. The pain or stitch in either side is very acute, and much aggravated by drawing a deep breath or coughing, which are often nearly impossible; the pulse is mostly excessively quick and small, and there is no tendency to expectoration. Pleurisy may terminate by the inflammation subsiding simply, or by a membrane being thrown out, which unites the lung and the side of the chest together, or by a quantity of sero-purulent fluid being secreted, which presses on the lung, rendering it unable to act, and even bulging out the side of the chest.

The treatment of pleurisy should be prompt and active. One full blood-letting, so as to relieve the pain, should be resorted to immediately; and if within twelve hours the pain and fever are not abated in a satisfactory manner, the patient should be cupped over the affected part. Two grains of calomel, and half a grain to one grain of opium should be given every three or four hours until the symptoms subside, taking care not to make the mouth too sore: the opium is partly to allay the irritation of the disease, and partly to prevent the calomel from purging. After twenty-four hours a large blister may be applied over the affected part: this should be suffered to rise thoroughly, the skin then be removed, and large warm bread-and-water poultices be applied, so as to promote the discharge. Such is the material part of the treatment, to which may be added the use of a mild saline, such as F. 111, and an aperient in the first instance, to be repeated when required. Adhesion of the lung to the side being the commonest termination of pleurisy, much catching and pain will often continue when the disease is going off, and even after convalescence, but then the pulse has subsided, and there are no other inflammatory symptoms.

FALSE PLEURISY is of very common occurrence. It may depend on a rheumatic state of the muscles between the ribs, or it may be a mere neuralgic pain depending on a peculiar state of the nervous system. The pain in rheumatic form of complaint is usually aggravated by moving the arms or putting the muscles of the chest on the stretch: in the second form the pain usually occurs rather low down on the left side. These two forms of false pleurisy are unattended with fever or cough, and the pain is often intermitting or variable.

Treatment.—In either instance the application of the opiate liniment, F. 19, night and morning, will be of advantage, and while in the first class of cases a mild anti-rheumatic treatment will be useful—the pills F. 33 for example, for a few nights—in the second we must look to the state of the constitution, and treat it accordingly. In young females this false pleurisy often requires the

administration of iron and aloetic aperients. The carbonate of iron may be given in twenty-grain doses twice a day; or the pills F. 89 will combine the two medicines.

QUINSEY.

This is a form of inflammation of the throat, in which the tonsil glands become especially affected. The ordinary symptoms of inflammatory sore throat attend the disease, but the difficulty of swallowing comes on earlier, and generally continues a greater length of time, and with less constitutional distress. Deglutition often becomes completely impeded, but there is rarely any difficulty of breathing. On examining the throat internally, we find a general diffused redness or tumefaction, but the tonsils, either one or both, are much more swollen than any other part, and are covered with patches of thick viscid mucous secretion: the swelling may gradually increase, even so as to close the back part of the throat and almost fill the mouth. The tendency of inflammation of the tonsils is to go on to suppuration, or the formation of matter, which, indeed, occurs in a great majority of cases, and if the abscess be allowed to break of itself, the quantity of offensive matter discharged is often exceedingly great.

Treatment.—I believe that the depleting treatment ordinarily recommended in this complaint serves rather to prolong its duration and retard recovery than promote the cure. The plan which I recommend may arrest the progress of the disease at once, or at any rate it will hasten it to a milder degree of suppuration than would otherwise be the case, and it will greatly accelerate convalescence, there not being that excessive debility which often remains after lowering treatment. The mode of treatment is as follows:—The emetic F. 87 should be administered in the first instance, so as to act freely. A dose of calomel, two to five grains, should then be given, and should be followed up in a few hours with the aperient F. 68 or 70, repeated at intervals of six hours until the bowels are thoroughly purged. Hot fomentations and bran poultices should be kept applied to the outside of the throat, and hot water gargle may be used, or the steam of hot water be inhaled. If the tonsils be very tumid and inflamed, slight scarifications or incisions with a lancet will give much relief. But after the above preliminary steps have been taken, the remedy is quinine, given in doses of two grains every two or four hours until relief is afforded, when the administration must be abated: F. 162 can be made use of, and if there be difficulty in swallowing the full dose (as is often the case), then the mixture can be made of double strength, so as to reduce the dose to half the quantity, or the quinine can even be given merely rubbed up with a little powdered sugar. The quinine may be given at any period after the first twenty-four hours, and will not fail to do good. While the patient is recovering, it is of much consequence to get the tonsils to resume their sound and healthy condition, and for this purpose the local application of the caustic solution, F. 137, or of the tincture of iodine, once or twice a-day, with a camel-hair brush, is the best means of effecting the object. During the disease little can be swallowed, and this little should, therefore, be as nutritious as possible, such as strong broth or beef tea, good jelly, bread and milk, yolk of egg beat up with a little wine and sugar. Quinsey is a disease which is very apt to recur frequently in the same individual.

RETENTION OF URINE.

This consists in an inability more or less complete to expel the urine, even if the bladder be full. There is violent straining, which only causes the passage of a small quantity of water, perhaps only a few drops. Some-

times, however, a considerable quantity of urine is discharged, but the bladder not having its natural power of contraction, is unable to expel the remainder, and sometimes, when once the bladder is full, keeps dribbling away as it is secreted, leaving the bladder always distended; this last state will exist when there is insensibility from injury of the head, or from any other cause, and it is of consequence that it should be understood, and not regarded as mere incontinence of urine. We generally find some pain in the region of the bladder, extending down the urethra; the distended bladder may be felt in the lower part of the abdomen, and if the patient be not speedily relieved, there will be much irritation and even fever. The causes of retention of urine are various: stricture of the urethra; disease of the prostate, a large mucous gland situated at the commencement of the urethra; any local impediment, such as stone in the passage; inflammation of the neck of the bladder, or of the urethra, may occasion retention of urine; also a paralysed state or want of contractile power of the bladder may prevent the due expulsion of the urine, which last state is often caused by suffering the bladder to retain its contents too long, so becoming over-distended.

Treatment.—This essentially consists in relieving the over-distended bladder, for which purpose we must generally resort to the use of the catheter. Catheters are small hollow tubes, with apertures in their extremities; they are made either of elastic material or of silver, of which the former are generally preferable; they are of various dimensions, and in the first instance a middle-sized one should be tried, changing it for a smaller one if requisite: when used, the discharge of urine indicates that the instrument has entered the bladder. If there be much appearance of inflammatory action, bleeding, fomentations, hot hip baths, and aperients, especially castor-oil, may be desirable even before attempting the introduction of the catheter. When there is much difficulty in passing the instrument from mere irritability and spasm, it will often be facilitated by the use of a hot bath, and administering at the same time a good dose of opium, twenty or thirty drops of the tincture, before again making the attempt. Retention of urine, however, requires prompt relief, and if we fail in obtaining a passage with the catheter, and by other means of treatment, the bladder losing all contractile power, becomes still further distended; it may then be attacked with inflammation and mortification, and burst sooner or later, causing almost certain death. To anticipate and prevent this peril, it may be necessary to puncture into the bladder, an operation which is generally performed in front, through the lower part of the walls of the abdomen. When retention of urine depends on the bladder having partially lost its power, which generally occurs in advanced age, the tincture of cantharides taken in doses of twenty or thirty drops two or three times a day, or the tincture of sesquichloride of iron in rather smaller quantities, may be serviceable. We must not confound retention of urine with suppression of urine. In the first instance the urine is secreted by the kidneys, but cannot be expelled from the bladder; in the second instance, no urine is secreted by the kidneys, and therefore there is none to be expelled.

RHEUMATISM.

Of this disease there are two distinct kinds:—1. Acute rheumatism, or rheumatic fever, which is characterized by violence, but has only a limited, though variable duration. 2. Chronic rheumatism, which is of milder character, and maintains itself at one degree of intensity, with some amount of variation, during an indefinite period.

Acute rheumatism occurs after a chill. It is indicated by an inflamed state of one or more of the larger joints, often wandering from one to another, and it may affect the muscles generally, or merely those in the neighbourhood of the

joint originally attacked. The local inflammation is accompanied by the usual symptoms of inflammatory fever, with a quick, strong pulse, a white tongue, particularly high-coloured urine, a confined state of bowels, and often profuse perspiration, affording little or no relief. The pain occasioned by moving or even touching the affected part is often excessive, and with the feverish symptoms is apt to become worse towards the evening, and then to remit somewhat towards the morning. The fever may be mild or severe in its character; it usually has a duration of ten days or a fortnight, and the local symptoms will often linger after the febrile condition has subsided. When the small joints are affected as well as the large ones, the complaint sometimes assumes a gouty character, and is called rheumatic gout. The great danger in connexion with acute rheumatism is the transference of the inflammatory state to the heart; the fibrous covering thereof is most apt to become affected, but the substance, and even its lining membrane, soon become implicated. The complication must, therefore, be carefully looked for and guarded against, for if it take place, even in a slight degree, the delicate mechanism of the centre of the circulation may soon become injured, even so as to lay the foundation of irreparable mischief. (*See INFLAMMATION OF THE HEART, PERICARDITIS, DISEASE OF THE HEART.*) A plethoric habit of the body and high living, especially with too much animal food, predispose to rheumatic fever; and there is also a weak and debilitated state of the system, when the blood is in a peculiar state, especially occurring in females, which institutes a liability to the disease. It is most apt to occur in those in the prime of life. Cold and damp are the usual causes of rheumatic fever, and it is therefore most apt to occur in the winter season, or rather when the weather undergoes the most unfavourable vicissitudes.

The treatment should be antiphlogistic or lowering. Bleeding, however, will not be requisite unless there be very great vascular excitement, or the complication of some internal inflammation. In the ordinary course of treatment, the powder F. 4 may be given at the onset, and a warm-water or vapour bath should be used if practicable. After four hours an aperient should be administered, such as F. 44, 68, 69, 70, and whichever of these seem desirable should be repeated every six hours until the bowels are very freely acted on: this being effected, we cannot do better than administer colchicum, as per F. 113, or F. 111, with the addition of one and a half drachms of wine of colchicum; the maintenance of perspiration, and causing the urine to throw down a copious deposit, are very desirable results of its administration. After free action of the bowels, we should every night give an efficient opiate: from one to two grains of powdered opium, or ten to twenty grains of Dover's powder, and with either of these one or two grains of calomel may be combined, if there be much inflammatory action, or the acetate of morphine may be given in the dose of a quarter or half grain, as per F. 15. If the colchicum be badly borne, causing too much depression or violent vomiting or purging, then we may treat the patient altogether with calomel and opium, one grain of each every four hours, stopping it as soon as the gums become tender. When the disease assumes a more chronic state, and the fever has subsided, we should then lose no time in resorting to the steady administration of bark or sulphate of quinine; the first may be given in twenty-grain doses, and the latter in doses of one grain mixed with a little powdered sugar every four hours, still continuing the use of anodynes and mild aperients as far as may seem necessary. Subsequently the treatment must be that of chronic rheumatism if requisite. Many heroic methods of treating acute rheumatism have been recommended; with large doses of quinine, of nitrate of potash, of lemon juice—but no one of them has the general sanction of the profession.

At the commencement of the disease the diet should be as spare as possible.

Barley water, toast and water, gruel, arrow-root, &c.; subsequently, though light, it should be made more nutritious, though unirritating and without much animal food in any shape. The temperature of the room should be moderately warm, and the patient should be kept between the blankets and without sheets. The painful joint may be enveloped in a flannel or calico bandage wetted with cold water, which may be renewed every four hours; there should be a wrapping of flannel over, and this will be found a most grateful application.

Rheumatism often presents itself in a mild or subacute form as the result of a chill: it seems as it were to be in the place of an ordinary catarrh, and is, in fact, a *rheumatic cold*. It is most apt to occur when the electric state of the atmosphere is in a peculiarly disturbed condition. This affection is usually of very wandering character, and will in turns perhaps attack the arms, the legs, the side, the back, and the abdominal muscles, or at any rate it will not fail to shift somewhat. There is not much attendant fever, but the stomach is usually out of order.

The *treatment* consists in acting freely on the bowels with a dose of blue pill, or F. 4, if anything stronger be requisite, and an aperient draught, such as F. 44 or 68, the following morning, and the day should be one of abstinence and low diet. The next night or two, if the pain persist, an anodyne and sudorific dose, such as F. 77, 78, 80, will be advantageous. As a local application, the liniment F. 19 may be used. A warm bath is very serviceable in these cases.

CHRONIC RHEUMATISM may affect any of the large joints, and even the small ones, or the muscular or fibrous structures of any part of the frame. It may be attended with much pain and some swelling, but there is rarely much redness, and it is generally confined to some particular part of the body. Chronic rheumatism is mostly connected with a peculiar constitutional state, the general health often remaining unaffected, though, on the other hand, there may be decided general debility, and the complaint may be connected with the constitutional influence of venereal disease. Cold and damp are the common exciting causes, and it will often appear to originate in a bruise or strain.

Treatment.—Where there is an inflammatory action, a steady mild alterative course may be of service. It may thus be carried out:—Compound calomel pill, extract of hemlock, and Dover's powder, of each twenty grains, are to be mixed together, and then divided into twelve pills, of which two may be taken every night for three or six nights following. Twenty grains of the flowers of sulphur, and the same of bitartrate of potash, should also be taken three times a day, and should be continued for a considerable period, even when the pills are not being administered. The administration of the calomel must not be carried on too far, for fear of affecting the constitution, and making the mouth sore, and the patient must be careful to avoid any chill while taking it. Where pain is particularly severe, decided opiates may be desirable, and from one to two grains of opium, with two or three grains of James's powder, or from ten to twenty grains of Dover's powder alone may be taken at bedtime. Where there is much debility, bark or quinine should be given, as in F. 157, 159. In such cases also cod-liver oil will sometimes be serviceable. When the stomach is much out of order, we must endeavour to remove the state of indigestion. In all these latter cases we must be careful to keep the bowels acting freely with appropriate aperients. For indolent and long-standing chronic rheumatism, various stimulating remedies are available: the compound tincture of guaiacum may be administered in doses of one teaspoonful two or three times a day in a little water; the powders F. 10 may also be serviceable in such cases. In many instances where there is swelling, the iodide of potassium is an excellent remedy, and may be given in a little peppermint water in doses of

from two to five grains three times a day. A course of the Buxton waters often does much good in chronic rheumatism. The local treatment should consist in friction, and we may use such a liniment as F. 19. The part affected may be covered with chamois leather, spread with any kind of unirritating plaster, or if the affection be general or of habitual occurrence, an entire dress of flannel lined with saracenit should be worn next the skin. When the muscles are especially affected, acupuncturation, as described under the head of Neuralgia, will afford relief. The diet should be good, wholesome, and nourishing, but not rich and stimulating. Unless there be debility from age or other cause, I deem alcoholic and fermented liquors to be decidedly objectionable, and believe that they should be altogether avoided. This self-denial, with the simple plan of drinking half a pint of cold spring water night and morning, and taking systematic exercise, will often do more good in chronic rheumatism than a long course of medicine.

RICKETS.

This consists in the bone not being duly organised, there being a deficiency of earthy matter, so that the bones are unnaturally soft and yielding in their texture, while at the same time those parts of them which are of light and spongy structure, the heads of the long bones, for example, are often much enlarged; there is usually also a want of muscular tone and development, and the conformation of the body is imperfect and unnatural. When first a child becomes affected with rickets, we find great deficiency of strength and disinclination to exertion; slight fever sets up, and the process of digestion is imperfectly performed, the secretions being depraved, so as to render the motions offensive and of a bad colour, while at the same time the appetite is capricious, and often craving and ravenous. The disease is apt to occur between the end of the first and of the third years, but where there has merely been a tendency to it in infancy, it is often shown at a somewhat later period of life, especially by the yielding of the bones of the skull, so that the head is enlarged, or by the bones of the leg or thigh giving way, so as to become curved in various directions. Rickets depends on a peculiar faulty constitution, probably derived from the parents. Cold and damp, unwholesome food, imperfect digestion, want of cleanliness, and bad nursing are the common exciting causes of the disease.

The treatment consists in improving the general state of the system, and this is to be done by the following means:—We must correct the unhealthy state of the digestive organs with mild alteratives and aperients; for this purpose from two to five grains of mercury with chalk may be given for a few consecutive nights, following it up every morning with two or three teaspoonfuls of castor oil. F. 48, 49, 50, 52, may also be available for the furtherance of the same object. Tonics must then be resorted to. F. 161 is a good combination of bark, and may be given in doses of from two teaspoonfuls to a tablespoonful twice or three times a day, or the compound tincture of quinine in doses of twenty drops; the citrate of iron is an excellent medicine, and may be given in doses of two grains two or three times a day in a little wine or cinnamon water; the sesquioxide of iron may be administered in five-grain doses with much advantage; or the syrup of the iodide of iron in doses of from ten to twenty drops, or even more, will be found powerfully strengthening: the cod-liver oil is at present a favourite remedy in these cases. But that medicine must be selected which seems most appropriate to the special nature of the case. During the administration of tonic medicine the action of the bowels must be carefully maintained, and for this purpose such medicines as F. 50, 73 are available. Pure air and regular exercise are essential, and gentle frictions over the surface of the body will often do much good. The occasional use of a warm bath at bedtime is desirable. The diet should be nutritious and digestible, consisting of a

good proportion of light animal food, with bread and other farinaceous substances, but without much green vegetable. Wine or malt liquor may be added as desirable, but it is better that the drink should consist principally of milk, diluted if necessary, and especially if there be a feverish tendency. Sea air is often very beneficial. The use of irons and other mechanical supports is not desirable in the early stage of rickets, but at a subsequent period they are often useful, especially when the joints or bones of the legs are weak and inclined to give way, when they will certainly have much effect in counteracting the mischief, and will facilitate that extent of muscular exertion which is so decidedly desirable.

RINGWORM.

The true form of this disease is not generally considered to be contagious, but there is a form of scald head approaching it in character which is decidedly so, of which we shall speak hereafter. Ringworm may attack any part of the surface of the body, limbs, face, or scalp, singly or in numerous spots. It consists of a number of minute watery pimples, arranged in the form of a circle of variable size, the adjoining surface being somewhat inflamed. Subsequently there may be a scaly appearance, but never that of a scab. The duration of the disease is usually only about ten days, and it may be occasioned by any irritation, especially where the skin is thin and delicate. It never occasions loss of hair when occurring in the scalp. Little is required in the shape of treatment. Some cooling medicine may be desirable, and as a local application a lead lotion, or that of sulphate of zinc, or one composed of two drachms of carbonate of potash to eight ounces of rose-water may be used, or citrine ointment or sulphur ointment will also effect a cure.

SALIVATION.

This usually arises from excessive administration of mercury, or from the constitution coming under its influence too readily, from being in an unhealthy state, and may be so severe as to constitute a disease. The best method of remedying the evil is by mild aperient medicine in the first instance, such as Seidlitz powders; the gargle F. 60 may be used frequently to wash the mouth out with, and then quinine medicine, such as F. 162, may be taken, with the addition of a little Epsom salts, if requisite, to keep the bowels open, or F. 166. Small blisters behind the ears are serviceable in severe cases.

SCALD HEAD, OR PORRIGO.

This consists in a peculiar pustular eruption, commonly occurring in the scalp, but it may occasionally affect other parts of the body. The pustules are minute flat mattery pimples, depressed in the centre, and imbedded in the very substance of the skin. These partly burst, and the matter contained soon concretes, forming bright yellow adherent scabs, still having the central depression. At first the pustules rise singly and distinctly, and are each situated at the root of a hair, but others soon rise round them in the intervals, so as to form clusters, and they may then encrust the surface, sometimes even to a great extent. If the scabs fall off or are removed at an early period, the skin is found abraded and ulcerated underneath; they may, however, remain a length of time, becoming indurated and of whitish colour, while the skin beneath assumes a state of chronic inflammation. There may be a succession of eruption in different parts of the scalp. In the diseased parts the hairs are speedily affected; from the commencement they are easily rooted out, become brittle, and soon perish completely. Thus, when the disease has been of long continuance, the hair often

cannot be restored again, and even if the destruction be not complete, the growth will be much thinner and weaker. After the disease has abated a scaly or scurfy surface often remains, the skin underneath being unhealthy. The disease usually attacks children, especially those of scrofulous or weak constitution. It is highly contagious; there is no fever, but the complaint is often attended with a troublesome itching. One form of porrigo, which is often designated as ringworm, assumes the arrangement of somewhat circular clusters of pustules, which are more thickly crowded at the circumference; the character otherwise is similar to the ordinary form of scald head; we must be careful not to confound it with true ringworm, nor with leprous or tettery patches, which are scaly from the commencement. There is another pustular disease resembling porrigo for which it may possibly be mistaken, but it affects the face, the limbs, or the body more often than the scalp; thus the locality will serve to distinguish it; also, the pustules are more superficial, and there is an absence of the peculiar characteristics which we have pointed out above. The disease in question is called impetigo; it is non-contagious, and apt to affect children at an earlier age than porrigo.

Treatment.—Thorough cleanliness is the first step towards the cure of scald head. The head should be shaved as far as possible, so that no spot of disease may escape notice, but when that process would occasion too much pain, the hair can be clipped as closely as possible with scissors. The surface should then be gently but thoroughly cleaned with white soap and water. If the scalp be much inflamed, or thickly scabbed over, warm bread and milk poultices should be applied, and, if requisite, occasional fomentations with weak lotion of lead, made warm, should be used. Twenty-four to forty-eight hours will usually suffice for the preliminary treatment, when the hair must then be again removed as closely as possible, and an ointment, composed of two ounces of flowers of sulphur, one and a half ounce of lard, half an ounce of linseed oil, and one drachm of oil of bergamot, well mixed together, should then be applied to the thickness of a penny-piece wherever the disease is apparent; over each patch a small piece of oiled silk should be placed, and a tightly-fitting thin linen cap, lined with oiled silk, should be applied over the whole. This should remain until the third day, when it should be removed, the head washed with warm soap and water, and nothing be applied for the next three days, except a little castor oil or acetate of lead ointment night and morning. At the end of that time the head should be again washed, and the sulphur ointment be again applied to any part where there is any fresh pustulous eruption, or where the surface beneath the scabs has any unhealthy matterly appearance. This must be managed as before, and, if requisite, the process must be again repeated at an interval of from three days to a week. By these means a cure will rarely fail to be effected. Constitutional treatment must, however, by no means be neglected, for the stomach is usually somewhat deranged, and the secretions not altogether healthy. Two or three grains of grey powder and double the quantity of rhubarb should be given night and morning for some days, and subsequently some simple aperient, such as F. 48, 49, 52, every other morning. When alterative treatment seems desirable, F. 5 may be resorted to, and when tonics are requisite, the syrup of iodide of iron, in doses of twenty or thirty drops in a little water, or two or three grains of the citrate of iron in a little wine and water, may be given twice a day. Where the constitution is decidedly scrofulous, and there is a tendency to emaciation, cod-liver oil should be taken.

After the pustular disease has been eradicated, a scurfy and irritable state of scalp will often remain. This should be treated with acetate of lead ointment, or F. 62, applied night and morning, and a lotion consisting of two drachms of borax, dissolved in half a pint of rose-water, and applied with a piece of soft sponge, will be found useful in removing the scurf.

SCARLATINA, OR SCARLET FEVER.*

This acute eruptive disease presents the usual symptoms of fever. At the outset there may especially be sickness at the stomach, and even vomiting, swelling of the face, pain in the back, and more or less soreness of the throat. Within four-and-twenty or six-and-thirty hours, the rash begins to show itself beneath the skin, over the surface of the body, in minute red points, sometimes arranged in patches, especially on the extremities; it gradually becomes more diffused and vivid in colour, and will then appear more decidedly on the face, which often becomes much swelled, but the general surface remains smooth and level, being in no way uneven and irregular, as in measles, small pox, &c.; there is often much itching sensation. On the third day the rash is at its greatest intensity, and then gradually subsides, leaving the skin dry and rough, so that its outer layer gradually comes off in branny scales, or peels off in large portions. This desquamation of the cuticle, as it is called, may take place within a day or two, or may be deferred to a later period. At the commencement of the disease the tongue is usually white, but as soon as the rash begins to appear, it assumes a reddish and denuded appearance, which commences at the sides, and gradually spreads over the entire surface. It is then also that the throat becomes more affected, especially in severe cases. On examination, we find it presenting an intense red colour, and somewhat tumid appearance. It then becomes ulcerated in specks, which gradually become diffused, the surface secreting a large quantity of viscid mucus, which is expectorated with difficulty, and causes considerable impediment to swallowing. If the throat become still worse, scabs or sloughs are formed, matter is secreted, and complete closure of the throat often takes place. This last state constitutes putrid or malignant sore throat, and is attended with the greatest danger. The sloughs will take several days to separate. The amount of fever varies much; the system may be oppressed, and the pulse weak and quick, previous to the eruption coming out; the febrile symptoms may then be slight, or may run very high, and so continue for a while; but if the disease be of virulent character, the fever will soon assume the character of typhus. There are two symptoms which are apt to occur even in mild cases of scarlet fever, and which sometimes occasion needless alarm; the first is delirium at night, prior to the eruption appearing, and while it is out; the second is diarrhoea, which is objectionable prior to the appearance of the eruption, for fear lest it should cause a check, but if it occur after the rash has been well out, it seems to do good, by moderating the inflammatory action, and carrying off the disease, so that it rarely requires even to be moderated. Scarlet fever may be an exceedingly mild complaint, attended with little or no fever or sore throat; the rash may then be very irregular and uncertain in its development, disappearing and reappearing during an uncertain length of time; any subsequent desquamation is then the best evidence of the disease having really occurred. Scarlet fever is a highly infectious disease; it usually occurs but once, and that commonly in childhood, when, on the average, it is less severe than at the adult age. Scarlatina can only be confounded with measles; generally, however, it may be readily distinguished by the following features:—the rash usually appears within forty-eight hours of the fever setting in, whereas the antecedent fever of measles may exist three or four days, and is always accompanied by catarrhal symptoms, such as coughing, sneezing, running at the eyes and nose, which is not the case with scarlatina, its peculiar premonitory symptoms being sore throat. The scarlatina rash presents a diffused

* Scarlatina is the Latin designation of the disease, though sometimes it is used in reference to cases where there is merely the rash, with little or no feverish disturbance.

superficial redness, whereas the eruption of measles is paler, and consists of small raised spots, which often assume a crescent-like arrangement.

Treatment.—The mild form of the disease merely requires that the patient be kept at a mild and equable temperature, about 60 degrees Fahrenheit, with thorough ventilation and cleanliness. The surface of the body should be sponged over once in the twenty-four hours with lukewarm vinegar and water. Light diet should be observed, and cooling acidulated drinks may be used at pleasure. If the bowels be costive, a little castor oil should be given at the outset. A saline may be given through the course of the disease, such as F. 101, 102, 103, 111, 119. When the disease is abating, mild aperients are always essential, and should be administered every other day: F. 42, 44, 46, 68, will afford a choice, or for a child F. 49, 52, 73, are available. Where there is any sore throat at the commencement, or if the rash be tardy in appearing, the emetic, such as F. 87, should be administered, and when the sore throat is a prominent feature in the disease, the same should be repeated from time to time, to remove the viscid matter, and promote more healthy secretion. A gargle, composed of one ounce of common vinegar, one ounce of honey, and seven ounces of barley water, may be used frequently, or F. 133, if the throat be much ulcerated. For young children, we may avail ourselves of F. 134, the swallowing of which will do no harm. In severe cases, the early application of the strong caustic solution F. 137 internally is very desirable, and it may be requisite to apply blisters externally to the throat. When scarlet fever assumes much severity, there is always a tendency to debility, and we should then give the ammoniacal saline F. 104, letting the ammonia predominate if the patient be very low, and the combination of five drops of laudanum with each dose may be desirable if there be much diarrhoea or nervous irritation; or, if requisite, to give support, the ammonia mixture may be given without the lemon-juice, in doses of two or three teaspoonfuls at a time, with or without the laudanum. Stimulants and nutriment, in a concentrated but fluid form, may be urgently required, and if the patient cannot swallow, strong broth and yolk of eggs beat up with milk or wine and water, should be thrown into the bowels as an injection. In low typhoid states, F. 161 may be resorted to as soon as it can be swallowed, and may also be given during convalescence. We must never forget that the free action of the bowels is essential after scarlet fever, as far as the strength will admit of it.

Much care is requisite during convalescence after scarlet fever, and that even if the disease have been slight, for if cold be taken, or there be constipation, or much derangement of digestion, great subsequent impairment of health, and much constitutional irritability, may be instituted. The ailment consequent on scarlet fever which is most to be dreaded is that form of dropsy known as anasæra, or dropsy under the skin. It depends on an affection of the kidneys, which, sympathising with the diseased state of the skin, readily assume a morbid state, becoming congested, and failing in their secretive function, if the delicate action of the skin be checked by cold, or if the bowels act imperfectly. This complaint requires active treatment. The patient may be placed in a warm bath, and we must endeavour to set up diaphoretic action by the aid of antimonials: from two to five grains of James's powder, or F. 76, may be given every fourth hour, at the same time keeping up gentle aperient action, or we may rely on strong cathartic action, and administer half a drachm of compound jalap powder, and one grain of calomel every fourth hour, and in proportion for a child, continuing the medicine until there is copious action of the bowels, when we shall, at the same time, find the swelling abate.

The belladonna, or deadly nightshade, has been very strongly recommended by foreign physicians as a preventative of scarlet fever, but English practitioners do not place much reliance on it. It is directed that two or three grains of

the extract of belladonna be dissolved in one ounce of distilled water, from one to ten drops of which are to be taken four times in the twenty-four hours by those who are exposed to the infection. This is to be continued about a fortnight, and is well worth the trial.

SCIATICA.

This is a form of neuralgia. It affects the large nerve of the lower extremity, which is situated at the back part of the thigh, supplying it with branches, especially the muscles, and then passes into the leg, and is also the great medium of the supply of its nerves. The pain and tenderness occasioned by sciatica are usually constant, and especially affect the buttock, the neighbourhood of the knee, and the leg, occasioning more or less lameness. This disease may depend in rheumatic inflammation of the nerve or its sheath, on some irritation of the kidney or the bowels, especially within the lower part of the abdomen, where the nerve takes its origin, or it may originate in mere nervous weakness and excitement.

Treatment.—Sciatica is often a troublesome and tedious complaint, but when properly managed it may generally be readily cured. We have carefully to look to its cause and essential nature ere we adopt any decided line of treatment. If we have reason to believe the disease rheumatic in its nature, we should order an aperient in the first instance, five grains of blue pill at night, and the draught F. 44 or 68 in the morning. The colchicum medicine, F. 112 or 113, may be administered three times a day, but unless it does good speedily, it should be discontinued, especially if debility be apparent; bark or quinine are then most likely to be of service: thirty grains of powdered bark may be given three times a day, or quinine as per F. 156, 157, 158, or 163. F. 10 may be useful in old cases of sciatica. Anodynes at bed-time may be requisite where the pain is severe, ten to fifteen grains of Dover's powder for example. The local applications should be stimulating and counter-irritant, such as mustard-poultices, the liniment F. 135, and even blisters and warm baths will often afford relief. If sciatica appear to be connected with a loaded and inert state of the bowels, we should also in the first instance give an efficient purgative, and subsequently keep up gentle aperient action, with half a wineglassful or more of the decoction of aloes twice a day, or F. 30, 32, 34, may answer the same purpose, and F. 47 is available where the combination of a stomachic with the aperient is desirable. If there be any special derangement of the kidneys, it must be remedied: if they be very inactive, fifteen to thirty drops of spirit of turpentine taken three times a day in a little barley water will do much good: if there be red gravel, the alkaline mixture F. 8, or twenty drops of solution of potash three times a day in a little milk and water, may be prescribed: if there be much white sediment, and the urine be not duly acid, the tincture of sesquichloride of iron, in doses of from fifteen to twenty-five drops, three times a day, in a little water, may be serviceable, or the mineral acid drops F. 6. In nine cases out of ten, however, sciatica is a nervous disease, one of mere debility and irritation, and the best remedy is the sesquioxide of iron, in doses of from fifteen to twenty grains every six hours. In the great majority of cases this simple remedy will effect a cure sooner or later. In the first instance the iron may not be the proper remedy, and our treatment as pointed out must be appropriate to the essential nature of the case; but at a subsequent period, when the cause is removed, and the morbid state is confined to the nerve, then the oxide of iron is available, and its administration is almost sure to be attended with advantage. Acupuncture, as directed in chronic rheumatism, may prove beneficial.

SCROFULA.

This is an unhealthy state of that part of the vascular organization which carries white blood, viz., the lacteal and lymphatic system, and it generally centres itself in the small glands which occur so frequently in the course of the lacteal and lymphatic vessels. Thus it may be, that the fluid matter, whether chyle or lymph, which the vessels in question take up, is not duly digested or formed by the vital action at the very outset; again, that the mouths of the lacteals or lymphatics do not select well-concocted nutrient material, but take up that which is crude and unwholesome; and also that the glandular bodies which the fluid has to permeate slowly, doubtless to undergo therein some important change and elaboration, do not duly perform their functions. From either cause the chyle or lymph assumes the peculiar diseased scrofulous state, and a portion of it, being rendered unfit for its purpose, and incapable of further transit, is deposited in the form of cheesy matter. Thus the absorbent glands are the chief seat of scrofula, but we may also assume that there is a general unhealthy state of the chyle and lymph, and that from its passing on into the red blood circulation, the entire system becomes tainted, and thus other evil consequences must result beyond mere glandular enlargement. It is very evident that the mouths of the lacteals and lymphatics must be apt to assume a very excited and irritable condition by the strong tendency to ulceration which is found in scrofulous subjects: this, however, is generally a secondary consequence, and not apt to become manifest until after glandular affection has existed. Where there is a highly diseased state of constitution, so that the blood is strongly impregnated with scrofulous matter, it may be deposited by the capillary vessels in any part of the body as a kind of secretion, especially in the liver, lungs, and other large glands, and various skin eruptions are also liable to occur. A peculiar low disorganizing inflammation, moreover, is often connected with scrofula, as, for example, when a joint becomes diseased. There is usually a predisposition to scrofula from birth, and it is connected with an originally faulty and weakly state of constitution. The disease generally shows itself at the earlier period of life, but it may then subside, and remain in abeyance until a later date, when it may again become actively manifest, as in consumption. There is usually a peculiar complexion in connexion with a scrofulous constitution. It affects fair and thin-skinned children, and is also prevalent in those whose skins are thick and turbid. A tumid upper lip is peculiarly indicative of the scrofulous constitution. Unwholesome diet, impure air, cold and damp, and want of exercise, serve to excite the formation of scrofula. Thus its occurrence is more common in variable climates, especially where the air is moist, and the close confined atmosphere of large towns peculiarly promotes its development.

Treatment.—Scrofula is a disease of debility, and it must be our primary object to strengthen the constitution and improve the habit of body by every means in our power. A well-regulated nourishing diet, and plenty of gentle exercise in pure mild air, constitute a most essential part of treatment. The use of tepid baths at bed-time, and sponging with warm salt and water in the morning is very desirable. Sea air and tepid salt water baths are very advantageous, and if sponging or bathing with cold salt water in the morning can be borne, it will be beneficial. The regulation of the digestive organs, and the promotion of healthy secretion, always require our attention. Where the appetite is capricious, the action of the bowels irregular, and secretions obviously depraved and unhealthy, the combination of alterative and aperient medicine cannot fail to do good: the powders F. 13 may be given every night or every night and morning, for a child of the age of twelve months, and stronger in proportion for one older, and as soon as the digestive organs seem to assume

a better condition, three or four grains of sesquioxide of iron may be added to half one of the powders and given night and morning, after a short time omitting the mercury altogether. Calomel ought not to be given to very young children, but after four or five years of age it may be given as per F. 3 at bed-time followed by castor oil in the morning, or, if preferred, especially with older children, we may resort to F. 48, 49, 52. Numerous specific remedies have been recommended in scrofula, of which the following are the most efficacious. Where there is a general tumid state of the absorbent glands, enlargement and hardness of the abdomen, an unsatisfactory state of the secretions, and at the same time debility, the alterative and tonic influence of the F. 5 may answer our purpose, and also in an early stage of affection of the joints. Where glandular enlargement is great, or that of the joints, or if there be ulceration, and especially if these states be very indolent, then F. 7 may be resorted to, or the syrup of iodide of iron, in doses of ten to twenty drops for an infant, and in proportion for older children. The great remedy for scrofula in the present day is the cod-liver oil, and certainly it has great influence in promoting the formation of the chyle, and in rendering the lacteal and lymphatic systems better able to perform their functions. The quality of the blood soon improves under its administration, and every part of the body becomes better nourished. From half a teaspoonful to a teaspoonful is the dose for a young child, two or three times a day, and a little milk and water, or sherry and water, are the best vehicles for its administration. Cod-liver oil is most useful in the chronic and advanced stages of scrofula, where there is debility, emaciation, and an ulcerated state of glands. Where the glands are greatly enlarged and indurated, or the joints much swollen and inflamed, or the abdomen hard and tumid, the use of other remedies should precede it, or be combined therewith. Thus much is certain, that the digestive organs should at the outset be brought into as healthy a state as possible, and maintained so, in order to render the action of the oil efficient. I therefore regard the preliminary alterative and aperient treatment which I have described as absolutely essential. We have now to speak of the local treatment of scrofula. Where there is an inflammatory and painful state of the diseased glands or joints, we should be careful to avoid irritating them; they may be bathed three or four times a day with warm salt and water, or fomented, by means of a piece of flannel, with a warm solution of iodide of potassium of the strength of one drachm to half a pint of water, or gently rubbed with the cod-liver oil. When the scrofulous tumefaction can be compressed, the light application of a bandage, so as to afford support and slight pressure, is desirable. In the more chronic state, the diseased glands may be painted over with tincture of iodine every other day, or the ointment F. 142 may be used daily. Frictions are often of essential benefit, especially when there is enlargement of the abdomen, and two-thirds soap liniment and one-third spirit of camphor will serve as a liniment. When there is open ulceration, there is no better application than compresses, wet with cold water, or, what is better, cold sea water, frequently renewed. A very weak lotion of sulphate of zinc, two grains to one ounce of water, may be applied, and where the ulceration is very indolent, the ointment of red oxide of mercury may be used, of such strength as is found desirable. A bandage of light flannel should be used where it is practicable.

SCURVY.

This is a disease of constitutional debility, and depends essentially on the body being imperfectly nourished. The blood is not duly formed, and seems deficient in some of those materials which the structure of the different parts require. Want of wholesome food is the usual cause of scurvy, especially when the diet consists chiefly of salted provisions, and is wanting in vegetable ingredients.

Thus it is that scurvy has constituted a kind of plague in former times when sea voyages were of longer duration, and the nature of the complaint ill understood. Cold and damp, want of cleanliness, bad water, impure air, want of exercise, habits of intoxication, and any mental depression also enter into combination with the other special causes, and may in themselves give rise to the disease, as in the rare form which is designated as land scurvy.

The symptoms of scurvy are excessive muscular debility and lassitude, and a weak, but often quick pulse; there is some degree of emaciation, but with a flabby, pallid, bloated appearance; the gums become spongy and bleed, and the breath is offensive; the urine becomes high-coloured and strong-smelling; there may be diarrhoea, or there may be constipation, but in either case the motions are excessively foetid; the skin has an unnatural appearance, and presents numerous reddish or livid spots, which often run into large blotches, especially on the limbs; any old sores or ulcers may then break out again, assuming a most unhealthy character, and even fractured bones, which have long previously united, may again become separated. In the worst stage there may be discharge of blood from the bowels, bladder, and other internal organs; the joints become affected, and the use of the limbs is well-nigh lost.

Treatment.—The prevention of scurvy is quite as important a consideration as the cure, and from what has been said as to the causes, we can, in a great measure, judge as to the means by which this desirable object is to be effected. The regulation of the diet, and thorough cleanliness and ventilation, are of absolute importance. The establishment of habits of order and regularity on board ship is an essential part of medical discipline, and ought to be strictly enforced by those in authority. In the treatment of the disease, it must be our object to restore the general tone of the system. For this purpose the diet must be made nutritious and somewhat stimulating, including a fair proportion of fresh or preserved meat and vegetables, as far as possible, and the use of good malt liquor is also desirable. The food should be frequently taken in small quantities, and lemon juice or citric acid, in solution, are considered almost as essential articles of diet; oranges and other acid fruits are exceedingly beneficial. The medical treatment should consist in the administration of very mild aperients, such as castor oil or rhubarb and cream of tartar combined, in doses of from five to fifteen grains of each, given as often as may be requisite. If there be much pain or uneasiness, opium should be given at night, or oftener if requisite, either from one to two grains of the powder, or from ten to twenty drops of the tincture, or in the shape of from ten to twenty grains of Dover's powder; tonics will be required, in the form of bark, given three times a day, in combination with the mineral acid F. 6, or F. 159, 162, may be made use of. It has of late been supposed that in cases of scurvy there is a special deficiency of potash in the system, and it has been strongly recommended that that substance should be given as a remedy; twenty grains of the bitartrate of potash may be administered three times a day. The body should be sponged over with vinegar and water night and morning, and exercise and pure air should of course be made available as far as possible.

SHINGLES.

This disease consists in an eruption of small vesicles, in irregular clusters, on an inflamed surface. It appears on the trunk, usually towards the back, and very often the patches of eruption extend a considerable way round the waist and chest, sometimes horizontally, and sometimes in a slanting direction, or it may be very limited in extent, confined to merely a few spots on the back or shoulder. In twenty-four hours the eruption is at its height, the vesicles resembling small pearls, and sometimes other patches will arise in succession.

The complaint may be attended with no pain, perhaps merely itching, but there is usually much of a stinging burning character, often appearing to be deep-seated, and the surface, at the same time, is exceedingly tender and irritable. There may be a feverish state, accompanied with nausea and headache, and sometimes there is considerable nervous excitement. In elderly people the complaint often marks a serious constitutional change, and may be followed by a state of considerable debility. The usual causes of shingles are, getting overheated, too much indulgence in cold drinks and acid fruits, or some error in diet; the stomach is often found to be much deranged.

Treatment.—Low diet for a day or two, with an avoidance of all stimulants, and the administration of four or five grains of blue pill at bedtime, followed by an aperient draught, such as F. 68, 69, in the morning, will commonly be all that is required. If the attack be severe, the pills F. 37 or 38 may be given each night, and the saline F. 46 once or twice a day. When the pain is very severe, six or eight grains of Dover's powder, or F. 18 or 109, may be desirable at bedtime. The best local applications are, the cerate of acetate of lead, or F. 62; and if the eruption be very troublesome, the caustic solution F. 137 may be painted over the surface once or twice a day.

SICKNESS.

This comprises nausea or inclination to vomit, and the act of vomiting itself. It is a symptom of a disease, rather than a disease *per se*. Vomiting does not, to any great extent, depend on the self-contraction of the stomach, but on a peculiar combination of spasmodic states of the diaphragm or midriff on the one part, and of the abdominal muscles on the other. The first-named structure is drawn down, and becomes rigidly fixed for a short space of time, while the latter structures perform a series of violent contractions, which compress the stomach and the muscles of the pharynx or upper part of the throat, sympathising with those of the abdomen, draw the gullet upwards, and cause it to expand at its upper part, so as to facilitate the expulsion of the gastric contents.

Irritation or over-distension of the stomach itself may occasion sickness, but it is often caused when indigestion chiefly affects the bowels, the liver, &c. Sickness may also arise from disease of the kidneys, womb, &c., and even the gradual distension of the last-named organ in pregnancy is a very common occasion thereof. In all cases, however, except perhaps in those of direct stimulation of the stomach, the irritation seems to be transmitted to the nervous centre or brain, and the excitement then passes to the muscular structures we have mentioned as being immediately concerned in the act of vomiting. This is proved by the effect injuries of the head have in producing sickness; in concussion of the brain, when a person is stunned and almost lifeless, reaction or revival is generally at the very first attended with sickness: again, when any general nervous shock has been experienced, giving rise to faintness, the restoration will often be accompanied with vomiting; and also sickness often constitutes one of our most warning symptoms of disease of the brain, indicating the threatening of apoplexy, and giving notice of the insidious approach of organic disease.

Treatment.—Local treatment will sometimes prevent and arrest sickness, counteracting the irritable state of stomach which is instituted even where the complaint merely originates in sympathy. Effervescent medicines, such as F. 102, 104, will often afford relief, and even soda or Seltzer water. Small doses of hydrocyanic acid, often repeated, are sometimes serviceable. Kreosote, in drop doses, rubbed up with a little sugar and water, and taken every two hours, is often beneficial. Ice is one of the best remedies, and that which is most often successful; a small portion should be placed in the mouth from time to

time, and suffered to dissolve slowly. Mustard poultices, applied to the pit of the stomach, often help to control vomiting. There are numerous other remedies for sickness, but they are only applicable according to the essential nature of the morbid state on which it depends; and, from what has been said, it will be very evident that the treatment must very often be directed against the head, rather than merely against the stomach.

SEA-SICKNESS depends on a peculiar state of the brain, apparently caused by a want of the usual firmness and steadiness of the equilibrium of the body. This gives rise to a depressing influence on the nervous system, which is indicated, in the first instance, by faintness, giddiness, and nausea, to a greater or less extent; reaction then follows, showing itself in retching or vomiting, which, as we have already mentioned, are very commonly dependent on excitement and irritation of the brain. The reaction, however, is often very imperfect, and is again followed by nervous depression, occasioning complete prostration of strength, and a sense of overpowering wretchedness, which continue for a shorter or longer space of time, efforts at reaction, indicated by the most distressing retching and vomiting, taking place at intervals. Where the affection is slight, there is some feeling of oppression and faintness; sickness then ensues, and the re-establishment of the tone of the brain speedily following the reaction, no more inconvenience is experienced.

Treatment.—The best way of preventing or relieving sea-sickness is by observing perfect quietude in the recumbent position, until the person has become accustomed to the motion of the vessel; slight stimulants may be taken frequently at intervals, such as a teaspoonful of brandy and water, two or three teaspoonfuls of strong coffee, without milk or sugar, ten drops of sal-volatile, or the same quantity of sulphuric æther and spirit of camphor, mixed in equal proportion, on a bit of sugar; twenty drops of spirit of chloric æther, in a small quantity of cold water, will often afford much relief to any uncomfortable sensation.

Sea-sickness may be beneficial in cases of asthma and in consumption in its early stage, by allaying the irritable state of the chest, and the copious evacuation of bile which it is apt to occasion often does much good in old-standing bilious complaints.

SMALL POX.

This disease consists of fever, attended with a pustular eruption, and is highly infectious. In its milder form, which is termed *distinct*, these pustules are more or less separate, and sometimes very few and far apart; in its severe form, which is termed *confluent*, the pustules are placed in close conjunction, so that finally they seem to run into one another, and cover the entire cutaneous surface. The fever preceding the eruption generally runs high. The following are the most marked symptoms:—severe headache, and even delirium; sore throat, and salivation; uncontrollable vomiting; and pain in the back or loins, of intense character. This last symptom is exceedingly characteristic, and it is said that, if in the loins, it foretels a severe attack, whereas, if between the shoulders, it is a more favourable indication. On the third day of the fever the eruption begins to show itself, first on the face, and consecutively on the neck, upper limbs, trunk, and lower extremities; during the next two days the disease takes the same relative development in its entire course, being thus constantly earlier in its progress in the upper than in the lower part of the body. The eruption consists, in the first instance, of small red spots, which by degrees rise up, and become more inflamed, forming pimples, which gradually ripen into pustules, or mattery heads, by the fifth day of the disease. These pustules have a peculiar central depression, as though the skin were there bound down;

and this, indeed, is their distinguishing character. In mild cases, the fever subsides at this period, though it will subsequently often become more or less renewed, especially about the eighth day. In severe or confluent small-pox, however, there is a different state on the fifth day; severe shivering sets in, and the fever then recurs with violence as the poek fills, though soon it may assume a typhoid character. On the eighth, ninth, or tenth day of the disease, the pustules will have become turgid, prominent, and semispherical, presenting a dark spot on the tops, where they gradually give way, and the yellow matter exudes, drying into scabs or incrustations. When the poek is at its height, the head and face swell considerably, and the eyes are more or less closed. Much itching attends the eruption throughout, especially in the latter stage. There is a peculiar faint and disgusting odour, or rather stench, attendant on small-pox, which cannot fail to be recognised. In confluent small-pox, the eruption appears earlier, and is of somewhat more irregular character, the pustules are flatter, and of a dirty colour. The eighth or ninth day is often fatal in bad cases of small-pox, the system appearing to become completely prostrated and overpowered; but when the disease reaches its height, death is most apt to occur late in the second week, and that usually from the throat and respiratory organs becoming affected. If the patient die after that period, he usually sinks from exhaustion, or the fatal result is occasioned by the supervention of some fresh complaint, such as inflammation of the lungs, diarrhœa, &c.

Treatment.—During the first fever stage, the treatment should be of aperient and cooling character. F. 4, or three or four grains of James's powder, and five grains of blue pill, may be given at bed-time, followed with F. 68 or 69 in the morning, and the bowels should then be kept rather relaxed, with F. 46, 105, or 107. Strictly low diet should be observed, with effervescing or acidulated drinks. The patient should be kept cool, and the surface of the body may be sponged over with tepid water twice a day. If, on the eruption taking place, there be no great amount of constitutional disturbance, little need be done; a simple saline, like F. 101 or 102, may be given. If, however, there be shiverings, with much restlessness and irritability, an opiate is desirable at bed-time, such as F. 77 or 100, and if the constitutional excitement continue during the maturative fever, the administration of the salines above-mentioned, at intervals of four or six hours, may be continued, combining ten or twelve drops of solution of acetate of morphia with each dose. As soon as the eruption has reached its height, the saline aperient treatment may be resumed, unless the bowels are decidedly relaxed, when simple salines should be continued, and, if necessary, to restrain diarrhœa, five or six drops of tincture of opium should be combined with each dose. An anodyne draught at bed-time, as already directed, will often be desirable. A want of constitutional power, at any period of the disease, must be carefully obviated; thus, if the rash be tardy and imperfect in its appearance, with a state of general depression, hot wine whey, and even wine and water, may be required, and a hot bath may be desirable, and at the latter period of the disease, F. 104 may be substituted for the ordinary saline, allowing the ammonia to be in excess, and it may even be desirable throughout the disease. Nutriment and stimulation are often of the highest consequence, and we must always be careful not to let the patient get too low. Bark may then be of great service, and F. 159, 161, are well adapted to support the patient. The latter medicine is also useful when the disease assumes a typhoid character at an early period, especially if the eruption be livid and irregular. Opiates are invariably available, no less than under the circumstances already pointed out. In robust healthy persons, where the disease inclines to assume a strong inflammatory character, I should certainly recommend bleeding in the first fever stage of the disease, as I am sure it may often be favourably modified thereby; but this must be done early, and the intensity of the pain

in the back may be regarded as the best indication for the abstraction of blood. When the throat is much affected, and loaded with viscid phlegm, at any period of the disease, there can be no doubt as to the propriety of administering a gentle emetic, such as F. 87, or ipecacuanha merely for young children; and this observation applies especially to the commencement of the disease, and the second week of its progress. On account of the sore throat, and the way in which the month becomes clogged with unhealthy mucous secretion, gargles or lotions may be desirable. F. 133 will answer the purpose, or F. 134, dissolved in a little water. It is of the highest consequence to cleanse the mouth and throat often, so as not to allow the mucous coating to accumulate, and, if requisite, a feather must be used for the purpose, and small quantities of some simple beverage should be frequently taken. To allay the intense itching caused by the eruption, equal parts of olive oil and lime-water make the best application; it may be smeared on with a feather from time to time. We have elsewhere mentioned that, as an exception to the general rule, small-pox may occur after vaccination. Where such is the case, the disease may even be severe, but it usually occurs in an exceedingly mild and modified form, requiring very little medical treatment beyond aperients, and is often exceedingly difficult to recognise. The formation of the pock, and its peculiar depressed centre, afford the best means of distinguishing the true nature of the disease, which may be of much importance, inasmuch as the power of infection is retained by the modified disease, however slight it may be.

SPINAL DISEASE.

This may be classified under two heads:—First, *Lateral Curvature*. Second, *Posterior Curvature*. These are two very distinct diseases, and must be spoken of separately.

LATERAL CURVATURE depends on general and muscular debility in its origin. The ligaments which unite the bones of the spine become relaxed, the small muscles which should retain the entire column erect and firm, lose their power, and then the larger muscles which effect the greater spinal movements no longer maintain their natural balance of action, but suffer the spine, especially its dorsal portion, which has most freedom of motion, to assume a curved direction towards that side where there is the greatest amount of muscular traction: this is usually to the right side. The observance of a constrained and unnatural position is also a great cause of lateral spinal curvature, and even remaining too long at a time in the erect posture, when once the spine is weak, conduces to the mischief. Lateral curvature gives the appearance of enlargement of the side towards which it takes place, and the shoulder is unnaturally raised and prominent. The hip of the same side recedes, while the opposite one protrudes somewhat. This peculiar alteration in figure is often the first symptom which draws attention to the mischief, the real nature of which is not suspected. Lateral curvature usually affects young females between the ages of fifteen and twenty-one. It is a disease of civilization, and is commonly caused by neglecting the requirements of the physical organization. It is often that too much time and too continuous application is allowed for the purpose of mental cultivation and the acquirement of accomplishments, to the comparative neglect of air, exercise, and relaxation, which are so essential to the health of the young. Other causes which conduce to the disease are insufficient, irregular, or injudicious diet, the practice of tight-lacing, and also bad habits in reference to posture, such as standing on one leg, stooping, &c. If proper means be adopted, lateral spinal curvature is usually readily curable.

The treatment of lateral curvature must in the first place look to the removal

of the cause; we must then proceed to strengthen the constitution and the muscular system, especially that part connected with the spine. The following general tonic means should be adopted:—The diet should be nutritious and very regular, and a certain proportion of wine or bitter beer may be desirable; constant but gentle exercise, walking and gymnastic, must be enjoined, with intervals of rest in the recumbent position, and this rest should be taken lying on the back, on a horsehair mattress, without the head being much raised; cold sponging down the back, and even douches, should be resorted to night and morning, followed by frictions with a flannel or horse-hair glove, until the surface becomes warm and glowing. In addition to the above treatment mild aperients may occasionally be required, such as the decoction of aloes, or the pills F. 29 or 31, and if there be much debility, iron may be desirable in the form of the sesquioxide, ten or fifteen grains twice a day, or F. 164. Sea air, and the use of salt water for the purposes of the bath, are always advantageous.

POSTERIOR CURVATURE OF THE SPINE is a much more serious malady than the lateral curvature. It usually occurs in the dorsal portion of the vertebral column, which forms a somewhat abrupt angle backwards, constituting what is commonly called humpback. The bones of the spine themselves are usually more or less diseased, if not in the first instance, at any rate at a later period. Posterior spinal curvature generally occurs in constitutions tainted with scrofula, and commences at an early age. Bad nursing is commonly the cause, or some injury received in infancy or youth, though perhaps not then suspected.

The treatment should consist in perfect rest in the recumbent position for a lengthened period, perhaps for months, until the disease no longer progresses, and counter-irritation by means of autimonial ointment, F. 140, setons, &c., are of essential service in arresting the slow morbid action which is going on in the bones. The constitutional state may require the administration of such medicines as the syrup of the iodide of iron, F. 7, or the cod-liver oil, and any special symptoms must have their appropriate treatment. On convalescence, the change from the habitual observance of the recumbent position to the erect position must be very gradually and carefully managed, and as much support as possible must be afforded by well-adapted stays.

SPINAL IRRITATION, OR NERVOUS DISEASE OF THE SPINE.

In this affection there is no distortion of the spine, nor any disease of the bones, but it consists in an excited and irritable state of that great trunk nerve, the spinal marrow, and of the branches which it originates. The complaint usually occurs in females, and a state of nervous debility predisposes to it. The cause is commonly a disordered state of the function of some internal organ, the heart, the stomach, or the womb for example, and after this has continued some length of time, subsides more or less, and the irritation is transferred to and centres itself in the spinal marrow. A new train of symptoms is then established, which are often of anomalous and eccentric character, and which we cannot account for. On examining down the spine, however, with pressure or percussio, we shall find a tender spot, often indeed acutely sensitive. We shall now generally be able to remedy the evil by applying counter-irritation to the adjacent surface; this may be done by small blisters, or the application of the liniment F. 135 or 139. We should at the same time use appropriate treatment for any affection of the internal organs still remaining, and in this treatment it is often desirable to combine the administration of mild anodynes, such as F. 16, 100, or full doses of tincture of henbane, and aperients must not be neglected. When the period of convalescence is reached, we must endeavour to give tone to the nervous system by the administration of sesquioxide of iron,

ten to twenty grains twice a day, or the mixture F. 164. Cold water should be applied to the spine every morning on rising, first by sponging, and then by douche, taking care that the surface is subsequently well rubbed with a coarse towel until a glow of warmth is produced.

STRANGURY.

This disease must not be confounded with retention of urine. It consists in excessive straining to pass water when there is very little or even none in the bladder, and depends on an excessively irritable condition of the bladder, or even a state of inflammation. It often arises from the undue influence of blisters. This complaint is very readily relieved by drinking warm diluents abundantly, and the administration of an opiate, such as F. 100.

SUN-STROKE, OR COUP DE SOLEIL.

This is a peculiar form of congestion of the brain, occasioned by long exposure to the heat of the sun, especially when there has been over-exertion. Pouring cold water on the head and face, and the administration of slight stimulus, is the best treatment. Powerful cathartics, such as croton oil, in large doses every hour or two, will generally be desirable, and cold must be kept applied to the head; if inflammatory symptoms occur, free abstraction of blood and the frequent administration of calomel will be requisite.

SUPPRESSION OF URINE.

This disease consists in an arrest of the secreting action of the kidneys to a greater or less extent, so that very little or no urine passes into the bladder. This state, therefore, differs widely from retention of urine. It may be the result of long-standing disease of the kidney, when there is usually dropsy combined; it may be caused by violent inflammation of the kidney, especially when both those organs are affected; or it may depend on a kind of paralysed state, which is often inexplicable, when the symptoms rather denote an oppressed state of system than inflammatory action.

The treatment of suppression of urine must be according to the cause. With the first form little or nothing can be done, for probably all the resources of art have been exhausted before the patient has arrived at that state. The management of the second form is that of inflammation in general, especially including free bleeding, so as to relieve the system somewhat from the poisonous influence which the urinary material floating in the blood exerts on the nervous system. On the same principle, the third, or simple form of suppression of urine, should at first be treated by blood-letting, especially cupping from the loins, and that should then be followed by the use of every possible means of stimulating the kidneys to action. A hot bath should be used as soon as possible; from three to five grains of calomel should be given, and in the course of a few hours an active purgative, such as F. 68. The diuretic mixture F. 81 or 82, or the powder F. 86, may be given at intervals of four to six hours, one grain of calomel being taken between the doses, combining one-quarter grain of opium with it if it excites undue action of the bowels, but not otherwise. If relief be not speedily obtained, a large blister should be applied over the loins, and if further aperient action be desirable, we may give castor-oil and spirit of turpentine, of each half an ounce. In such a case the patient must die unless speedily relieved, our ministrations should therefore be both prompt and powerful. When the affection is of chronic character, F. 83, 84, or 85, may be available.

SWINE-POX.

This is generally considered to be a form of chicken-pox, but it often presents a somewhat different character, and perhaps may be considered as a very modified form of small-pox. The mattery heads are larger and more irregular than those of chicken-pox, and incline to be converted into pustules of flattened shape; no distinct central depression on them can be made out, but they last longer than the vesicles of the chicken-pox. The form of disease in question seems to be both epidemic and contagious, and mostly occurs among the children of the lower orders, where there is want of cleanliness. Usually there is no fever or constitutional disturbance, and the use of aperients is the only treatment requisite.

TETANUS.

This fearful disease consists essentially of violent and long-continued muscular contraction or spasm, the parts affected becoming rigid and tense: there is often partial relaxation, but rarely complete. The body may be affected to a greater or less extent. The disease may be confined to the muscles closing the jaw and connected with the throat, which constitutes the state commonly known as lock-jaw: it may affect the muscles of the body, causing it to be bent backwards like a bow, so that the patient may rest merely on his heels and the back of his head: it may affect the muscles of the anterior aspect of the body, even bringing the head and knees together, and rolling the patient up like a ball; or again it may implicate the body laterally, and draw it to one side or the other; the two last-mentioned states are rare. Tetanus is a disease of the nervous system: it does not directly interfere with or impair sensation; it affects merely the nerves of motion, but the intense spasm of the muscles is often attended with violent pain.

Symptoms.—The approach of tetanus is usually indicated by stiffness of the neck, uneasiness in moving the head, and some difficulty in swallowing. These symptoms increase, and then the jaw becomes fixed, generally gradually, but sometimes suddenly. We thus have lock-jaw, and here the disease may stop, or pass on to further development. There soon comes on acute pain at the lower part of the breast-bone, passing through to the back, which doubtless depends on spasm of the diaphragm or midriff. From time to time there may be intervals during which the spasms of the neck and throat relax, but only to recur with redoubled violence, extending to different parts of the body. The surface of the belly feels as hard and rigid as a board, and the body is then drawn backwards, forwards, or to one side, according to the sets of muscles which are affected. During the paroxysms the aspect of the sufferer is often frightful. The forehead is wrinkled, the brow knit, the eyes fixed and staring, the nostrils dilated, the corners of the mouth drawn back, so as to expose the set teeth, and all the features glare with a ghastly grin—the true *risus sardonicus*. Throughout the disease the bowels are obstinately constive, and the evacuations usually dark and offensive. The pulse and the breathing are much quickened. Finally, death seems in a great measure to be caused by exhaustion conjoined to an interference with respiration. The cause of tetanus is any bodily injury, of which the amount thereof may be very slight; lacerated wounds frequently occasion it, and it is always a subject of some dread after severe and tedious operations. Tetanic disease may originate from exposure to cold, but it is of much more common occurrence in warm than in temperate climates, and especially in marshy situations. In hot countries the nervous system is more irritable and more readily influenced by any noxious impression. The male is more often affected than the female, and the strong and healthy more commonly than those that are weakly.

Treatment.—In this dangerous and often fatal disease, the results of treatment are far from satisfactory, and it is quite a matter of uncertainty as to what are the best curative means. Tetanus is not a disease of inflammatory character, but one of peculiar nervous irritation, and to allay this irritation is the object. We must first look to the local cause, and endeavour to obviate it as far as we possibly can; for example, splinters of bone may have to be removed, warm and soothing applications must be applied to any inflamed and painful part, and the free application of nitrate of silver may be required by an unhealthy and irritable wound. The following course of constitutional treatment may be laid down as that which is most feasible and likely to be attended with benefit:—In severe cases, first a full bleeding, with the subsequent use of the warm bath; next, free aperient action should be established, so as to remove any source of irritation which may be caused by the morbid contents of the bowels; croton oil is generally the best medicine for our purpose, from its prompt and efficient action; F. 71 or 72 will be available, and if desirable, one grain of calomel may be added to each of the croton oil pills. Thus far the mode of treatment seems obviously indicated, but from this point it becomes doubtful how we should proceed. Medicines of every kind have been recommended as remedies: counter-irritation, cold affusion, and the application of ice to the spine, have been resorted to without any satisfactory results. Dry cupping down the whole course of the spine may probably be advantageous, and the inhalation of chloroform is worthy of a thorough trial. In debilitated subjects, it is evident that our treatment must be of tonic and stimulating character, including aether, ammonia, bark, quinine, and wine. The inability to swallow, and the difficulty of forcing the mouth open, in many instances, make it desirable to apply our remedies locally, or to administer them by the rectum. It may be requisite to give nourishment in the latter manner, and its administration should be effected with the stomach-pump tube, so as to throw it as far up the bowel as possible. Lock-jaw, as we have already said, is but a form of tetanus, and must be treated by a modification of the treatment above described, the activity thereof being proportioned to the intensity of the attack. The administration of an antimonial emetic when the approach of the disease is suspected is very desirable. When the disease occurs in young children, which is rare, it usually depends on teething or irritation of the stomach and bowels, and should be treated accordingly; lancing the gums, warm baths, ipecacuanha emetics, mild aperients, such as castor-oil, and the free administration of henbane, as in F. 121, will therefore be the chief remedies.

TIC DOULOUREUX.

This painful and distressing complaint has already been noticed as a form of neuralgia: it affects the face, and may be mistaken for toothache or rheumatism. The pain may be of stinging, darting character, coming on at intervals, or it may be rather an aching, numbing sensation. The veratrine ointment gives more relief in this than in any other form of neuralgia.

TOOTHACHE.

This complaint is often exceedingly annoying and distressing, especially when of frequent recurrence. It essentially depends on irritation of the nerve of the tooth, which may be occasioned in various ways. Decay of the substance of the tooth is the most obvious cause, disease of the gum and socket of the tooth is another; but these causes are often called into activity by a common cold, and still more so by derangement of the stomach and bowels, which we generally find indicated by the state of the tongue, &c. Toothache again may be purely of rheumatic or neuralgic character.

Treatment.—To relieve a paroxysm of toothache when the tooth is decayed, various means are available; a grain of opium and the same of camphor may be made up together into a pill and placed within a cavity, which must be well dried out previously, or the hollow may be well filled with cotton moistened with a mixture of equal parts of laudanum and spirit of camphor. Kreosote applied in a similar manner is often effectual, and still more often the oil of cloves. Strong nitric acid is said to be a good and permanent remedy, but the greatest caution must be observed in its use, which is best adapted for teeth in the lower jaw: the acid may be applied by means of a bit of lint wrapped round a probe, and it must be done slowly and thoroughly, carefully avoiding touching the gums, cheek, or other teeth, and washing the mouth out immediately with tepid water. Tincture of aconite is often a good remedy for any kind of toothache, and may be used by rubbing it gently on the gum and outside of the cheek, or as a lotion, made by adding one teaspoonful of the tincture to a couple of tablespoonfuls of warm water, part of which held in the mouth a few minutes at a time will rarely fail to deaden the pain. If a tooth be decayed to a moderate extent, careful stopping will often relieve and prevent its aching, by excluding the external air and preventing the further progress of decay: this must not be done with any deleterious mercurial compound, but with gold or some innoxious material. To prepare for the permanent stopping, and see whether pressure can be borne, a small portion of cotton wool moistened with compound tincture of benjamin or collodion should be firmly inserted in the first instance, after all decayed substance has been thoroughly removed from the cavity, which must be well dried before the mediated lint is inserted. After this has been used two or three days with daily renewal, and provided there be no pain nor considerable tenderness, then the permanent stopping may be used with every prospect of success. When the gum is much inflamed, its free scarification will often give relief, or even the application of leeches to the part affected may be advisable; in such cases also a mustard poultice applied to the cheek may do good. If there be digestive derangement or a feverish cold, which is very often the case, the local affection being merely the result of sympathy, then a good aperient will be desirable, whatever may be the local treatment; five grains of blue pill at night and the draught F. 68 in the morning for example. Warmth is especially advantageous in rheumatic cases, and in other respects the treatment must be appropriate to the cause. In like manner neuralgic cases may require the use of iron, quinine, &c., like the ordinary form of neuralgia. If a tooth be much decayed, so that it cannot be stopped, and frequently occasions pain, it ought to be extracted without loss of time, provided the gum be not too much inflamed, and this is still more desirable if the tooth be loose. Even where a tooth is not apparently much decayed, there may be some hidden mischief at the root or at the side, which may make its removal necessary: this may generally be ascertained by a probe, or by percussing the tooth with any metallic body, and we must suspect it if we cannot detect any other cause for the nerve-ache. Still it is far from desirable that teeth should be wantonly removed on the first access of pain and inflammation; even if they be somewhat decayed, other means of relief ought undoubtedly always to be tried in the first instance. I cannot, however, admire the practice of some dentists in retaining rotten stumps in the jaw, so as to preserve its shape, in order that they may subsequently be better able to mount the dental substitutes. For the preservation of the teeth it is most desirable that the digestive organs should be maintained in good order, and that the stomach should not be over-excited and deranged by excessive eating and drinking, for it is thus that the fluids of the mouth are rendered unwholesome and even corrosive in their nature, the mucous lining of the mouth becomes unhealthy, and the nerves assume a state of undue irritability. The local means

of preserving the teeth consists solely in keeping them as clean as possible, for which purpose a soft brush and warm water should be employed at least twice a day. Tooth-powder is rarely desirable, but if used at all, should be very simple, and of alkaline nature. Camphor I believe to be most pernicious to the teeth, although it may give a sensation of agreeable warmth and comfort when applied: being a powerful stimulant, it irritates and excites the gums, and consequently also the linings of the teeth-sockets, producing mischief slowly but surely. A good tooth-powder may be made with one ounce of prepared chalk, half an ounce of calcined magnesia, a quarter-ounce of powdered bark, and the same of powdered myrrh, to be well mixed together in a mortar.

ULCERATION.

This, as we have already shown, is a result of inflammation. When external it comes within the department of surgery, but it is also very commonly connected with internal diseases, which come under the physician's care. Thus we may have ulceration of the larynx and trachea, which constitutes a main feature of a particular form of consumption: ulceration of the lungs, which may be connected with bronchitis or ordinary consumption; simple ulceration of the stomach, which is rare, and also that form of ulceration which is connected with cancer; ulceration of the small intestines, which is a peculiar character of typhus fever; ulceration of the large intestines, which especially belongs to dysentery, with exception of ulceration of the rectum, which is a complaint in itself; and among the chronic diseases of the urinary organs ulceration of the bladder and kidneys frequently presents itself.

WATERBRASH.

This complaint consists in the eructation of a quantity of watery saltish fluid from the stomach, when food has not been taken for some time. It is preceded by sharp burning pain in the region of the stomach, which is often severe, and lasts for a while. Waterbrash usually occurs among the poor, especially where there is an insufficiency of animal food; it may, however, occur in persons of the better condition in life, from injudicious diet. The bowels are usually somewhat confined. Warm aperient stomachics and mineral tonics are the remedies. F. 47, 146, 147, 149, are good medicines of the first kind, and nitrate of bismuth, in five-grain doses, twice or three times a day, or the oxide of silver pills, F. 12, are those of the second kind, which are most efficacious, especially the last mentioned. The bowels should be kept in action with warm aloetic medicines, such as the pharmacopœial preparations, the compound decoction of aloes, the compound powder of aloes, the compound aloes pill, or the pill of aloes with myrrh. A generous and nourishing diet, though light, is necessary.

WHITE SWELLING

Is usually the result of injury, and consists in a slow inflammation of the interior of one of the large joints; it is especially when the knee is affected that the term is applied. The symptoms are dull aching pain, much aggravated by using the joint, which becomes stiff as swelling comes on. The swelling is general, and increases gradually, becoming very firm, but does not present much redness, though hot and somewhat tender. The complaint remains stationary for a short time, during which it is curable, but when it once proceeds further, the result is very uncertain. The disease may continue to advance, especially in scrofulous subjects; the swelling and pain increase; a constitutional irritation with fever sets up; collections of matter form in the neighbourhood of the

joint and in its cavity, at length bursting, and discharge a thin unhealthy fluid, and if the disease continues to progress, the structure of the joint itself becomes destroyed. Unless the mischief can now be arrested by removal of the limb or other means, the patient must speedily sink from the irritation and exhaustion occasioned by the disease.

Treatment.—The application of leeches, with hot fomentations and poultices, is desirable in the first stage of the disease. If the patient be strong, and the inflammation violent, without the tenderness being excessive, cupping will be preferable to the use of leeches. An aperient must be given, five grains of blue pill at night, and the draught F. 68 in the morning, and this may be followed up by antimonial saline, such as F. 111. Thus the first part of the treatment must be that of common inflammation, from which however, white swelling may be distinguished, by its slow approach, gradual progress, and the absence of superficial inflammation. When white swelling occurs in a debilitated constitution, our depleting treatment must not be too severe, but must soon be changed for soothing and alterative means. Warmth does not do good in cases of white swelling for any length of time, and, after a day or two, light bandaging with a calico roller, and the constant application of a cold lotion, such as F. 123, 124, will generally be attended with more advantage. If, after a few more days, the internal irritation and external swelling do not seem to subside, blisters may be applied, first over one part of the joint, and then over another—in the knee, for example, at the sides—subsequently resuming the bandaging, without any lotion. If, then, some swelling, stiffness, and tenderness remain, the liniment of mercury may be well rubbed in night and morning, pressure being carefully kept up by means of the bandage, or an elastic knee-cap. It is, of course, desirable to rest the joint, and keep it quite quiet, until all acute symptoms are gone. In the stage of convalescence no medicine is usually requisite, beyond an occasional mild aperient; the compound colocynth pill, or F. 29, for example. If the secretions seem faulty, or the digestion inactive, the alterative pill, F. 1, may be given each night, or a compound calomel pill, or grey powder for a child. Anodynes are sure to be necessary to a greater or less extent, and are available in the form of Dover's powder, tincture of hyoseyamus, or F. 15, according to circumstances. Tonics may be required, and, if so, we cannot do better than resort to the tincture of sesquichloride or the syrup of the iodide of iron. The highly serofulous form of white swelling requires the greatest care and judgment for its management, and constitutional treatment is even of more consequence than that which is local. The cold lotion and bandaging may be fairly tried, but if the disease do not seem to subside, counter-irritation must be had recourse to, and persevered in for some time. This may be carried out by the repeated application of blisters, or by the antimonial ointment F. 140. It is of much importance to keep the diseased joint in a state of perfect quietude, as the greatest pain and irritation often attends the slightest movement, and for this purpose a splint may even be used for the affected limb, broad strips of calico, spread with soap plaster, being applied next the skin. When the disease is abating, and the irritation in a great measure subsiding, the plaster should be composed of equal parts of soap plaster and plaster of mercury, spread on leather, so as to afford more support. As soon as the disease has become quiescent, passive motion of the joint must be gently commenced, preparatory to more active exertion, provided the joint be not irrecoverably stiff, in which case it should be kept as immoveable as possible by bandages and gutta serena splints, so as to guard against any strain or injury of the new structure. Gentle frictions are very useful in restoring the use of a joint, and if the parts seem to want tone and stimulus, the cold douche may be serviceable.

HIP-JOINT DISEASE.—This affection may be regarded as a form of white

swelling, but from the depth at which the affected joint is situated, the disease is obscure, and does not present the same obvious symptoms as when it is superficially situated. In the first instance, there is a little occasional pain and uneasiness about the hip, and the patient is readily fatigued. On examination, the buttock appears somewhat flattened, the limb rather elongated, and the foot slightly everted and turned outward; it occasions pain and uneasiness if the thigh be turned inward.

The treatment must be that described under the head of white swelling. We have mainly to depend on perfect rest and powerful counter-irritation. The early symptoms of this disease must be promptly attended to, as, when once established, it soon leads to incurable lameness. The young are usually affected.

WORMS.

Several kinds of worms are found in the alimentary canal of the human subject, but chiefly three: 1. *Lumbrici*, or the long round worms, from two to ten inches in length, which infest the small bowels, and sometimes the stomach; there may be many of them. They have often been known to crawl out of the mouths of children while asleep, and are very often thrown up by vomiting. They are of light brownish-yellow colour, and sometimes rather reddish, like the common earth-worm, which they much resemble. 2. *Ascarides*, or the small white thread-worm, varying from half an inch to one inch and a half in length, which inhabit the rectum or lower bowel for the most part, and sometimes in great numbers. They are divided into two kinds, which for practical purposes, need not be here distinguished. 3. We have *tænia*, or the tape-worm, which is generally many feet long, and sometimes is said to be of extraordinary dimensions. Tape-worm is a yellowish-white colour, of flattened shape, and of the width of narrow tape. It is very narrow and thin towards its anterior extremity or head, soon becoming thicker and wider, and is divided into oblong segments or joints, which are apt to separate, and come away, either singly or many together. Tape-worms may exist singly, or there may be more than one. There are two kinds of tape-worm—the common one, which is termed the *tænia solium*, and the other the *tænia latum*, which is broader and flatter, and its joints are more adherent, and not so apt to break off. The former kind is most usually met with in England. Worms most frequently occur in persons of weakly constitution and relaxed habits. Weak digestion and an improper diet seem to be connected with their generation; where the diet consists principally of vegetable food, especially potatoes, they are very common, and a damp climate seems to favour their production. The general symptoms of worms are various, and at the same time very deceptive, inasmuch as they may arise from many other sources of irritation in the alimentary canal. Those that are most common are colicky pains and swelling of the belly, rubbing and picking at the nose and the fundament, in consequence of the itching and irritation felt in those parts; grinding the teeth, and starting in the sleep; foul breath, and capricious appetite, which is sometimes voracious, and almost insatiable, and at other times utterly wanting; the bowels are irregular; there may be cough; there may also be various nervous symptoms, such as fainting, convulsions, &c. With tape-worm, the symptoms are generally the most severe, and there is often much emaciation and nervous irritation. From a combination of the above indications we may suspect the presence of worms, but nothing save the actual presence of one or more of the animals, or portions of them, can assure us of their existence.

The treatment consists in the dislodgment of the troublesome inmates, and

effecting their expulsion alive or dead, which is often a matter of some difficulty. The lumbricus, or common round worm, may often be got rid of by a systematic course of purgatives. For an adult, nothing can be better than two of the pills F. 66, taken each night, or the powder F. 64, and half an ounce of common salt, dissolved in half a pint of warm water, early in the morning, before breakfast. These remedies may be repeated as often as necessary, as far as they can be borne. For children the powder F. 64 may be resorted to, in doses according to age, and may be relied on alone, if there be much difficulty in giving the salt and water; then the powder must be repeated every four or six hours, until the bowels are freely purged. In reference to other worm medicines, the decoction of pomegranate bark will sometimes prove effectual, both in this kind of worm and in tape-worm; two ounces should be given for a dose, and repeated every hour or two, till it takes effect, or it may be followed up with a dose of castor-oil. The infusion of the black or fetid hellebore, made by pouring a pint of boiling water on an ounce of the leaves, is often serviceable. For an adult, a wine-glassful may be taken every four hours until it purges freely, and for children in proportion. The use of iron or bitter medicines in the cure of the kind of worms in question, and also in the cases of thread-worm, is of much utility; they appear to irritate, and exert a poisonous influence on the animals, and certainly are very efficient in preventing their regeneration. The tincture of the sesquichloride is the best form in which we can give the iron. As a bitter, an infusion of gentian, of quassia, or of camomile, may be taken three times a day. Salt is a good preventive for worms, and children should be accustomed to its use from an early age.

The ascarides, or thread-worms, most commonly infest children; the itching and irritation about the fundament coming on especially towards night, constitute a marked symptom of their presence. As we have already mentioned, the ascarides inhabit the lower bowel, and our remedies should be there applied by injection, for it is a very roundabout way to apply the medicines to the other extremity of the long alimentary tube. By the mouth we should only give those medicines which are intended to improve the general health, and prevent the reproduction of the vermin, which may be very desirable, as pointed out already in speaking of the lumbricus. A solution of common salt, one ounce to a pint of water, of infusion of gentian, made with half an ounce to the pint, or of quassia, with a quarter-ounce to the pint, are the best injections. Half a pint may be thrown up warm. Lime-water, used in a similar manner, is also good, and from two drachms to half an ounce of the tincture of the sesquichloride of iron, mixed with half a pint of warm water, is said to be a most effectual remedy. If, after the use of these injections and their action, there is much irritation, three or four ounces of thin starch, or equal quantities of gruel and olive-oil, should be thrown up. The itching can often be allayed by the application of a linen pad or piece of sponge, wet with cold water, on going to bed.

For tape-worm, the oil of turpentine is generally an effectual remedy; an ounce may be taken by an adult, and a proportionate dose for a child, in a little cold water, on an empty stomach, and it should be followed by the same quantity of castor-oil, or the aperient draught F. 68, two hours afterwards; the nauseous taste of the turpentine makes it very objectionable, and still more the state of intoxication which it is apt to produce; this, however, need occasion no alarm, as it will soon pass off. The decoction of pomegranate bark also will often effect our object; it may be given as already directed for lumbrici, and the administration should be repeated on a second day if requisite. The fashionable remedy of the present day for tape-worm is the koussou, which, by many authorities, is regarded as infallible, not only in cases of tenia, but also where there are lumbrici. It is to be given in the dose of half an ounce, in-

fused for ten minutes in two-thirds of a pint of boiling water, the whole to be taken at once. No food should be permitted for twelve hours previously, and a good dose of castor-oil is desirable four hours before, and also subsequently to the kousso having been taken. It must be remembered that tape-worm is apt to come away piecemeal, and that however many joints may be expelled, the patient is never free from the complaint until the animal's head is got rid of, for as long as that remains, vitality and growth will go on.

FEMALE COMPLAINTS.

THE finer and more delicate organization of females gives a peculiar character to their complaints, and the conformation of the body required by the adaptation for child-bearing, institutes a liability to special disorders and diseases. The nervous development is, in many respects, larger in woman than in man, and in consequence there is more vivid sensibility—that is, impressions are more readily received, and pervade the system more rapidly and with more power. The uterine system also constitutes a centre in itself, from which an influence radiates, diffusing itself throughout the whole economy, manifesting itself in health and disease; and when there exists any general morbid state, it is apt to implicate the uterine system, causing such morbid state to assume special characteristics, and to present distinctive features, which demand notice and consideration.

It is not until the access of puberty that the difference of sexes is manifest to any extent, in respect to health and disease. Up to that period, the female merely presents somewhat more delicacy of constitution, and an inferior amount of muscular power, at the same time that the nervous system is more excitable and impassible; but at the period spoken of, the differences in question become much more marked, at the same time that the uterine organization assumes an active manifestation. A great and important change then takes place in the female, constituting a new era of existence. The uterus assumes its secretive function, preparing and fitting it for the purpose of impregnation, and the formation of the embryo of the future human being. The secreting function of the uterus is called *menstruation*, and consists in the discharge of a small quantity of sanguineous fluid, during a period of about five days, at intervals of about four weeks. The function of menstruation commences about the age of fifteen, and continues, on an average, about thirty years. There is much liability to variation in reference to menstruation, and that, too, compatibly with health. The function may be established at an earlier or later age than those mentioned, and the extent of its continuance will vary according to the nature of the constitution. The amount of the discharge may be small, or in considerable quantity; the duration of each period may be longer or shorter, and the intervals may be somewhat uncertain. During the pregnant state, the menstrual action, as a general rule, is suspended, being supplanted, as it were, by the constant determination of blood to the womb, for the purpose of nourishing the fœtus, and also from the secreting surface being, to a great extent, temporarily obliterated, and even during the period of lactation, for the most part menstruation remains in abeyance, in consequence of the constant drain caused by the secretion of milk.

The establishment of the uterine function should attend a certain point of perfection in corporeal organisation; indeed, it should be contingent thereon. In some instances, however, it is premature, outstripping the general growth, whereas, in others, it may be tardy, and lag behind the due period. But more especially do we find that occasionally, at the age of puberty, the general corporeal formation remains weakly and imperfect, and at the same time the uterine development remains incomplete; the vital energy has proved awhile unequal to the accomplishment of its task, to the attainment of the due point of perfection of growth; and thus is constituted a form of ill-health to

which young females are very liable, and which is known as chlorosis, or green sickness.

The *menstrual period* is usually attended with more or less inconvenience, and though in many it is very trifling, yet in the majority of females it is of sufficiently marked character. It is usually preceded by a sensation of fulness, by a degree of general restlessness and uneasiness, and sometimes by depression of spirits. There is usually pain in the back, often extending down the thighs, with general aching of the limbs; there may also be nausea and slight headache. As the discharge takes place, these symptoms generally subside, and when the period is at an end, the usual state of health is resumed. There can be no doubt that during the period of menstruation there is a certain amount of excitement and irritability which render the female more sensible of any impression, and the constitution in general is then susceptible of any morbid influence, especially in connexion with the nervous system. A certain amount of care and caution, therefore, is requisite to prevent any interference with the natural process, and any causes of undue excitement, depression, or irritation, should be carefully avoided. Prudence and experience will usually dictate the observance of due precautions, and the absolute necessity thereof cannot be too strongly inculcated to young females, who should always be warned of the event beforehand, and duly instructed on the subject, so that they may not be alarmed or taken unawares. As a general rule, no strong medicine, especially of purgative nature, should be taken during menstruation, or immediately prior thereto.

There are many morbid states connected with the function of menstruation. When, at the proper age, and with good bodily development, menstruation does not appear, although symptoms of its occurrence are experienced, we then have one form of the complaint, known as amenorrhœa; and when, after menstruation has once been thoroughly established, it fails to recur at the proper period, or is suddenly suspended or arrested in consequence of cold, mental emotion, or any other cause, then we have a second form of the complaint. When the menstrual function is attended with much pain, either previous to its appearance, during its course, or at its cessation, then we have what is termed dysmenorrhœa, or difficult menstruation, which often is not only attended with much suffering, but may even occasion serious injury to the general health. When the menstrual secretion takes place in excess, and also persists for too long a time, then the complaint is called menorrhagia, and may prove exceedingly hurtful. We shall speak further of these states individually.

CHLOROSIS, OR GREEN SICKNESS.

The disease is named from the pallid greenish hue which the complexion assumes. It occurs in females about the age of puberty, and generally prior to the appearance of menstruation: as already pointed out, it is connected with the great constitutional change which should then take place, and which there is not strength enough to establish in a healthy and efficient manner. There is languor and listlessness, depraved appetite, and imperfect digestion, often pain in the side, and headache. As the case advances, the pulse becomes quick and weak; the breathing is short and laborious; there is often a short hacking cough; the surface becomes cold, and presents a puffy appearance; and the patient will occasionally faint away.

Treatment.—Chlorosis is decidedly a disease of debility, accompanied by a gradually increasing deterioration of the blood. The belief that it actually depends on the retention of the uterine secretion is altogether an error. Chemical analysis shows that not only is there a deficiency of the most highly organized and important element of the blood—namely, the corpuscles, but also

that there is an excess of those which are crude and imperfect. This, then, is the essential and morbid state that we have to remedy, and we must do so by tonic treatment, and by restoring one of the leading principles which is deficient in the blood, that is, the iron. We have, therefore, to improve the state of the system by every means in our power. Pure air, regular exercise, and light nutritious diet are essential in the first place; a certain amount of stimulus, such as bitter beer and good sherry, may be desirable when there is much debility. The bed-clothes should be light, and the patient should sleep on a hair mattress. There should not be too much indulgence in bed, and if extra rest be required, reclining on a couch for an hour or two in the middle of the day is permissible. Cold ablution, or in the first instance it may be lukewarm, over the surface of the body, especially down the spine, should be used every morning, being followed up by smart friction with a rough towel. The bowels are usually costive and loaded; they must be freely acted on in the first instance, and the aperient action should be maintained gently but steadily until the secretions assume a healthy character, and it will be well to effect this before the administration of iron is commenced, as that darkens and disguises the appearance of the evacuations. F. 44 or 68 should be given in the first instance, and subsequently the compound decoction of aloes may be made use of in doses of half a wineglassful twice or three times a day, according to the effect produced, and if there be much debility, five grains of carbonate of ammonia may be added to each dose: the compound aloes pill, the pill of aloes and myrrh, or F. 32, may be substituted, two being taken at bedtime, or one twice a day, according to circumstances. In chlorotic cases aperient action often rouses and stimulates the system, so as to produce a tonic influence. The combination of iron with the aloetic is then desirable, as in F. 89, and when more decided tonics seem desirable, F. 164, 165 may be resorted to, and in some cases the use of F. 166 will be very beneficial. A resort to Tunbridge Wells and the use of the chalybeate waters is often advantageous. Where the constitution presents any scrofulous indication in the shape of glandular enlargements, the syrup of iodide of iron will act admirably as an alterative tonic. If there be much pain or nervous irritation, we can resort to henbane, of which either the extract or the tincture may be given at bedtime in full doses.

HYSTERIC.

This complaint is peculiar to females, although a nervous state of somewhat similar character may occasionally present itself in the other sex. It consists in a state of nervous excitement. The symptoms of the fit are a sense of suffocation; the feeling of a ball rising in the throat; involuntary laughing or crying; sighing, sobbing, and even screaming; partial loss of consciousness, and convulsive struggling. Subsequently there is much flatulency in the stomach and bowels, and copious discharge of pale urine. The fits may come on very suddenly. During the intervals the symptoms, with the exception of the convulsions, may be present in a mitigated form, and there is often headache or some anomalous local pain, that occurring in the left side being most constant and often very troublesome.

Hysterics are more apt to occur in single than in married women, and are generally met with between the age of puberty and the period of menstrual cessation. They make their appearance oftener near the menstrual period than at any other time, especially when the function thereof is in any way deranged. Hysterical affections are most common in delicate nervous women, and by giving way to them they may be rendered habitual. Any excessive emotion or intense feeling may bring them on, and any violent constitutional shock or over-excite-

ment. An indolent and luxurious life, grief, anxiety, indigestion, constipation, or tight-lacing will predispose to the disease.

Treatment.—During the fit the patient should be placed in the horizontal position; all the clothes should be loosened; smelling salts or any other restorative should be applied to the nostrils occasionally; the hands and face should be moistened with cold water; and if this be not sufficient, cold water should be dashed freely over the face and neck. During the intervals we must endeavour to strengthen the constitution and improve the tone of the nervous system. Active exercise in the open air, regular meals of plain nourishing food, early rising, and diverting the mind from painful associations by change of scene and agreeable company, will do much towards effecting a cure, and the exertion of self-control must not be wanting. The state of the bowels should be regulated, and for this purpose aloetic aperients will usually be desirable. F. 29, 31, 34, 35, or the compound decoction of aloes, may answer the purpose, and if we want anything very mild, the pills F. 145 are available. Tonics may be desirable; and when there is an impoverished state of the blood, the medicine must be iron: from ten to twenty grains of the sesquioxide may be taken two or three times a day, or from fifteen to thirty drops of the tincture of sesquichloride in a little water: F. 164, 165, 166, are excellent combinations: and also one or two grains of sulphate of zinc, taken three times a day, with an ounce of infusion of quassia, is a suitable tonic.

AMENORRHOEA.

This disease consists in deficient or suppressed menstruation. It may originate in different causes. It often depends on debility, especially when the function first commences, when even if it do occur, it is pale and not of sufficient duration. We must not, however, expect the perfect establishment of the secretive action in the first instance, as it may require some short lapse of time: and so long as it recurs with tolerable regularity, and there is no failure of general health, no medicinal interference should be made use of. If, however, menstruation appear very irregularly or imperfectly, and at the same time the general health is deranged, then medical aid is requisite. Amenorrhœa may be connected with debility, when tonic treatment is necessary. Iron is the best remedy; the sesquioxide in doses of from ten to twenty grains, or from ten to twenty drops of the tincture of the sesquichloride in a little water, should be taken three times a day, immediately after meal-time. The bowels must be kept open with the decoction of aloes, taken in the morning, or the compound rhubarb pills taken at bed-time, as requisite. In some cases, where the patient presents a tumid, flabby appearance, and the bowels are indolent, the combination of the iron with aperients, especially of aloetic character, will have the best effect; F. 89, 166, for example. Warm aloetics alone, such as F. 34, 90, are sometimes serviceable, and F. 91, 92 are very excellent combinations where there is much nervous depression. Exercise in the open air, regulation of the diet, so that it may be light and digestible, but nutritious and even somewhat stimulating, is requisite.

Retention or suppression of menstruation may on the other hand be connected with a very different state of system from that which has been described above. There may be a full or somewhat plethoric condition, without any particular constitutional debility, though there may be a sense of oppression. Pain in the left side, nausea, and headache may be experienced. When this state is accidental, arising perhaps from cold, the ailment may probably be readily remedied by taking from three to five grains of James's powder, and the same of blue pill, at night, and following it up in the morning with a common aperient dose, or F. 44 or 68, or the pills F. 33 alone may be taken at bedtime, and repeated

for a night or two, if requisite. A warm diluent, such as whey or gruel, should be taken at bed-time, and the feet and legs should be immersed in hot water for ten minutes. The obstruction in question may, however, be of more permanent character, and if the means mentioned do not afford relief, more active treatment will be requisite. Hip-baths should be made use of at bed-time, and from four to eight leeches must be applied to either groin at the period when menstruation should occur: during the intervals mild aloetics, such as the compound decoction of aloes, the compound pill of aloes, or the pill of aloes with myrrh, should be taken twice a day, and occasionally an alterative at bed-time, such as the compound calomel, or F. 1 or 3 will be desirable. Friction to the neighbourhood of the spine, especially the lower part, with the compound camphor liniment, may be made use of each night. The diet should be regulated and not too stimulating, and abundant exercise should be taken. In some case of amenorrhœa, where the state of fulness and oppression is excessive, bleeding from the arm may be absolutely requisite, but such is rarely the case. It often occurs from mere digestive disorder that the menstrual action may be somewhat tardy in its occurrence, or may not take place as freely as usual: five grains of blue pill at bed-time and an aperient dose in the morning, with a little reduction of diet, and the avoidance of any chill or over-excitement, will usually remedy the evil. Impeded menstruation is most apt to assume a marked character at the first establishment of the function, and more so in single than in married females: the states which have been described will often combine, so as to present a complex character, and the treatment must then be modified accordingly.

DYSMENORRHŒA.

This complaint is when menstruation takes place with undue pain and inconvenience. The pain may be in the region of the womb, but more often is in the back, extending down the thighs. It is often very acute and distressing, and is usually most acutely felt at the commencement and termination of the period. The amount of secretion is often deficient, and attended with a discharge of clots, which is never the case in a healthy state of the function. The complaint is more common in the single than in the married state, and occurs most especially in females of weak and irritable constitutions.

Treatment.—Dysmenorrhœa may be connected with an inflammatory state, which usually occurs in a somewhat full and robust habit of body, when there is generally some amount of febrile excitement. This may require leeches and the use of a hip-bath; a powder, such as F. 4, may be taken at bed-time, followed by a mild saline aperient, such as a Seidlitz powder, or F. 46, in the morning. In such cases, when of milder character, from fifteen to twenty drops of antimonial wine, and the same of spirit of nitric æther in a little water, taken every two hours at the commencement of the period, will often do much good. During the intervals between the periods, a course of mild alteratives and aperients, such as F. 1 or 3, or the compound calomel pill, followed by F. 46 in the morning, will be beneficial. When the complaint depends on irritation and spasm, anodyne treatment will be requisite in addition to the warm hip-bath; F. 99 or 100 may be used, or if requisite, twenty or thirty drops of spirit of sulphuric or of chloric ether may be taken in a little water every four hours until relief is obtained. When there is much debility connected with the irritable and spasmodic state, our treatment must be of more stimulating character, comprising such medicines as F. 23, 27, or the compound tincture of guaiacum, taken in teaspoonful doses, in a little water, will often be found serviceable. During the intervals between the periods the improvement of the general health is of great importance. F. 90, 91, or 92 may then be made use of, or F. 164, 166, may be more appropriate when there is much debility. The

bowels can be regulated with such pills as F. 38. In these cases friction to the lower part of the spine, with such a liniment as F. 19, for a quarter of an hour every night at bed-time, will often be attended with much advantage. Dysmenorrhœa sometimes depends on an unnatural conformation of the mouth and neck of the womb, but this is very rarely the case to such an extent as to make local treatment really necessary.

MENORRHAGIA

Consists in unnaturally profuse menstruation. It may depend on a full habit of body, and if not in great excess, may afford relief to the state of constitution, and thus be rather beneficial than otherwise; but when it is attended with feverish excitement, it requires to be attended to. The patient should be kept in a state of quietude, the diet should be low, and cooling aperient medicine should be taken; half a teaspoonful of Epsom salts dissolved in a little water, with the addition of fifteen drops of dilute sulphuric acid every four or six hours, or F. 107, will answer the purpose. During the intervals between the periods mild aperient medicine, such as Seidlitz powders, should be taken occasionally, and the diet should be regulated.

Menorrhagia may depend on relaxation and debility, when it must be checked without loss of time, and medicines, such as F. 54, 55, 57, 58, are serviceable for the purpose, taking care at the time to keep the bowels open; but the remedy which is more simple and generally preferable to any other is the oxide of silver in pills, as per F. 12, which may be taken every six or eight hours, and should also be administered twice a day in the intervals between the periods, especially for a few days just before and immediately afterwards. The tincture of the sesquichloride of iron is a very useful remedy when the blood seems in an impoverished state, and its use will be particularly advantageous in the intervals between the menstrual periods, if taken in doses of twenty drops twice or three times a day in a little water. Other tonics may be suitable to the circumstances of the case, and must be selected accordingly.

Whether menorrhagia be connected with a state of fulness or relaxation, or even when it is accompanied by any marked constitutional disturbance, it will often be found associated with a peculiar morbid state of the liver, generally one of inaction: the relief of this hepatic condition by free doses of calomel or blue pill will then be speedily followed by an abatement of the uterine secretion, and the administration of the mercury will be found far more efficient than any astringent treatment. Two or three grains of calomel, or five grains of blue pill, may be given at bed-time, and if requisite, a mild aperient in the morning. In such cases a mild alterative and aperient course in the interval between menstrual periods will often be found very beneficial.

LEUCORRHŒA, OR WHITES,

A common female complaint, and one which is often exceedingly troublesome; it may occasion much injury to the general health, and therefore should on no account be neglected. It consists in a whitish or yellowish discharge, which may be secreted by the lining mucous membrane of the vagina, or may proceed from the uterine cavity; the former is the most common form of complaint. Leucorrhœa, whether vaginal or uterine, may assume an acute or inflammatory form, especially in the first instance, when depending on cold or any undue irritation, and there will then be local heat and pain, and a slight feverish state. In such cases the diet should be reduced, and quietude should be observed; hip-baths at bed-time, and injections of warm water two or three times a day, will be desirable; and a little alterative and aperient medicine,

such as five grains of blue pill at night, and the draught F. 68 in the morning, should be taken. The affection soon passes into a chronic or passive state, when, often occasioning little inconvenience, it is apt to be neglected. The vaginal complaint should then be treated with astringent lotions, which should be used two or three times a day; a suitable lotion may be composed of half a drachm of acetate of lead, dissolved in half a pint of rain or boiled water; another may be made with twenty grains of sulphate of zinc and thirty grains of alum dissolved in the same quantity of water; the decoction of oak bark will form a good astringent lotion, and F. 61 is a powerful one, which may be made use of when the complaint is of long standing or obstinate character. The lotions may be used as injections, with the aid of a bone female syringe, which is procurable from any druggist; from half an ounce to an ounce should be thrown up at a time, and the lotion may be used warm or cold, as may be most agreeable to the feelings. A state of general debility may exist, when tonic medicine will be desirable, such as the tincture of the sesquichloride of iron, taken in doses of twenty drops in a little cold water three times a day, taking care at the same time to regulate the bowels: cold douches to the spine or shower-baths every morning may also be serviceable. Injections are of no utility in uterine leucorrhœa, which is most usually connected with the state of the constitution; but the iron and cold bathing are available, and in addition the lower region of the spine may be well rubbed each night with the compound camphor liniment or F. 112; the oxide of silver pills, F. 12, taken two or three times a day, are often very serviceable in these cases; the medicine F. 166 may sometimes be taken with advantage; and where there is a very relaxed and languid state of system, a teaspoonful of compound tincture of guaiacum, taken twice a day in half a wineglassful of compound infusion of gentian, will often be productive of great benefit. It is hardly necessary to mention the necessity of frequent ablution with warm water in these cases.

PREGNANCY.

This is the state of the female between conception and delivery, extending over a period of forty weeks. Certain symptoms usually attend its existence, and may generally be readily recognised. In the first place we have increase of size, but it is some few weeks before the enlargement becomes apparent; it goes on gradually until about the sixteenth week, when it progresses more rapidly, arriving at its maximum between the thirty-second and thirty-fifth week, when some apparent diminution generally takes place from the alteration of the position of the womb, and its sinking down into the pelvis. As a general rule, menstruation is completely suppressed during pregnancy, or at any rate occurs but once after conception. The countenance usually undergoes some alteration: the features become sharper, and the complexion somewhat paler, and the eyes look larger, and have a dark areola round them. The breasts soon become fuller and increase in size, giving rather a knotty feeling; and the nipples also increase in size and become more prominent, having a vascular circle round them, which presents rather a dark tint. Nausea and sickness, especially in the morning, constitute one of the best signs of pregnancy; they do not generally occur until two or three weeks after conception, and usually abate after the middle of pregnancy; an uncertain and capricious appetite and a loathing of food often attend the peculiar sympathetic irritability of the stomach. About the sixteenth week, or usually somewhat later, what is termed *quickening* takes place, which depends on the womb changing its position, and the movement of the child becoming perceptible; this occasions an alteration in the feelings of the woman, which is attended with faintness and sickness, and may occasion a little alarm. In the latter months of pregnancy, the urine, on

standing, will generally present a greasy-looking scum, which seems to depend on the blood assuming a separative action, so as to prepare it in some measure for the secretion of milk. During pregnancy, especially in its early stage, there is almost always irritability of temper, and a feeling of restlessness, but after the first part has passed over, a female will often enjoy the best of health.

Thus some inconvenience will, of course, generally attend the pregnant state, and this may amount to so much suffering as to require medical interference. To these states, therefore, we will now briefly refer. The sickness that we have mentioned may be very distressing, preventing the retention of food, and causing much irritation and exhaustion. In these cases the diet must be carefully regulated; rich and indigestible articles of food must be strictly avoided; the food should be taken in moderate quantities at short intervals, and it is often desirable that some slight nourishment, such as a small cup of tea or coffee with a biscuit, should be taken before rising in the morning. Common effervescing draughts, with the addition of half a teaspoonful of sal-volatile, or a little soda water or Seltzer water, with a teaspoonful or two of brandy, are often serviceable in allaying the irritability of the stomach. When vomiting is obstinate, a drop of kreosote taken in a teaspoonful of vinegar, with a little water, is sometimes beneficial. The free action of the bowels must be carefully maintained. When there is much acidity or heartburn, alkalis will afford relief; fifteen drops of the solution of potash may be taken in a little water, or half a teaspoonful of calcined magnesia; but the solution of magnesia is the best remedy, taken in doses of a tablespoonful; and when the stomach is weak, and appetite is deficient, a mixture composed of equal parts of the solution and infusion of calumba, or compound infusion of gentian, will often do much good. In pregnancy the bowels are apt to become confined, or at any rate not to be freely relieved, and it is of the greatest consequence to obviate this tendency, especially towards the latter part of pregnancy, as it has much to do with causing other disagreeable symptoms, and may even materially interfere with the process of childbirth. For this purpose castor-oil, taken in such doses as are requisite, from a teaspoonful to a tablespoonful, will always be found a safe and useful medicine, but when it is objectionable for any reason, F. 38 or 42 may be substituted. Piles often occur in pregnancy, and generally owing to a confined state of the bowels. Toothache is of common occurrence during pregnancy, owing apparently to the irritable condition of system; unless the affected tooth be much decayed the extraction is not desirable, and relief can generally be obtained by soothing means, combined with the administration of an aperient. Excessive flow of saliva is sometimes experienced, and usually indicates a necessity for gentle aperient action. Cough is often troublesome, and may be treated with mild sedatives and aperients. Irritability of the bladder is often very annoying during pregnancy, especially towards the latter part, giving rise to pain and a constant inclination to pass water; it depends in a great measure on the pressure of the enlarged womb: if the urine be scanty and high-coloured, the use of the potash or magnesia, and drinking abundantly of mild diluents, such as barley-water, at the same time avoiding all malt liquors and other alcoholic stimulants, will usually afford relief; a little spirit of nitric æther may be beneficial, and occasionally a mild anodyne is necessary in these cases, such as thirty or forty drops of the tincture of henbane, or from five to ten drops of solution of acetate of morphine taken at bed-time. Cramp in the legs is often complained of, and depends on the irritation produced by uterine pressure. This pressure also often interferes with the circulation, and prevents the free return of the blood from the lower limbs, so occasioning the enlargement and distension of the veins, and even a kind of dropsical swelling of the legs. Towards the latter part of pregnancy there is often a painful sense of fulness, or the abdominal walls may become relaxed, and give way, causing much undue bulging forward

to take place; or again, much dragging sensation and bearing down may be experienced. In these and all other states, which seem to result mainly from the existing mechanical pressure, it is desirable that support should be given by means of a broad belt well fitted to the lower part of the abdomen: occasional rest in the recumbent position will be desirable during the day; and we may again point out the absolute necessity of maintaining the due action of the bowels, as any distension thereof must necessarily aggravate the internal compression. Towards the latter part of pregnancy much inconvenience is often experienced from the breasts; they are apt to become hard, knotted, and painful; gentle friction with the simple camphor liniment will then be desirable, or the embrocation F. 19 may be used. If friction with soap liniment be employed when the time of child-birth draws near, and pressure on the breasts be more carefully avoided than is usually the case, the function of lactation will certainly be the more healthily and readily established at the proper period. As a general rule, regular and sufficient exercise should be taken throughout pregnancy, and while it is very desirable that over-exertion and any undue excitement should be carefully avoided, yet the performance of the ordinary active duties of life should be persevered in, and will conduce to the maintenance of health, both of mind and body.

MILK FEVER AND MILK ABSCESS.

At the time when the full flow of milk first takes place, there may be more or less feverish excitement, which, however, will usually subside when once the breasts are kept well drawn, either by the infant or by artificial means. The bowels should be kept freely open with such medicines as F. 42 or 68; a simple saline, such as F. 101, 102, may be taken if desirable, and, if necessary, an anodyne, such as six or eight grains of Dover's powder, may be administered at bedtime, so as to allay irritation: the breasts should be kept cool. But the affection may be of more consequence, especially at a later period, when, from cold, injudicious diet, or suffering the breasts to become over-distended, a more decided inflammatory state may set up in one of them, causing much swelling, tenderness, and pain. We must then use the means as above directed, and also keep a cold lotion, such as F. 123, 124, constantly applied to the affected part. The case may, however, become worse; the fever may run higher; the breast may become harder, and more painful; much plunging and throbbing sensation may be experienced, and there may be redness of the surface. This denotes the formation of an abscess, which makes its way outwards. In such cases, a more powerful saline, such as F. 105 or 111, must be prescribed; the bowels must be kept relieved, and an efficient anodyne at night, such as F. 15, will be necessary. As soon as there is a decided tendency to the formation of matter, we must substitute hot fomentations, and bread and water poultices, for the cold applications, and when the abscess is formed, and points to the surface, it should be opened without loss of time, as the patient will thereby be spared much suffering, and the cure will be expedited. The opening should be kept from closing by the insertion of a bit of lint, and the poulticing must be continued until the matter seems thoroughly discharged, and the part inclines to heal. But some of these abscesses are very troublesome to heal, and even fresh ones may keep forming in succession. In such cases the best means of cure consists in affording a certain amount of support and pressure, by means of long strips of soap-plaster, applied in every direction over the breast, leaving the opening of the abscess uncovered, so that the matter may flow out. In these bad cases, the use of quinine is always desirable, and may be given three times a day, as in F. 157 or 162, and at the same time the action of the bowels must be carefully maintained.

SORE NIPPLES.

The nipples are very apt to become cracked and ulcerated during nursing, especially at the commencement. If very bad, the use of a shield and artificial nipple will be desirable, at any rate for a time. When the nipples are hard, dry, and chapped, the use of a lotion composed of one drachm of borax, half an ounce of spirit of wine, seven ounces of rosewater, and half an ounce of glycerine, three or four times a day, will be found of great service. When the nipples are moist and tender with superficial ulceration, the application of the tincture of catechu, especially after suckling, will be very beneficial. The ointment F. 62 will sometimes afford great relief in cases of sore nipples. The nipples must always be washed clean from the last two applications before the infant is applied to the breast. Sore nipples cause much suffering, and often promote the formation of milk abscess. The occurrence of them may always be materially prevented by washing them night and morning during the latter months of pregnancy with weak brandy and water, and this is especially desirable if they be then tender and delicate. Much inconvenience is often experienced by the nipples not being sufficiently prominent and developed for the infant to take hold of them. This state also may be greatly prevented by having them occasionally sucked or drawn with a proper instrument during the latter part of pregnancy.

CHILD-BED OR PUERPERAL FEVER

Is a peculiar inflammatory state, to which the violent change which takes place in woman at the period of child-birth renders her especially liable. The disease sometimes appears to be infectious. Within a few hours or days after confinement, a violent paroxysm of shivering occurs. This is succeeded by high fever, attended with rapid pulse, much heat of skin, and dark dry tongue, intense thirst, sickness, and delirium; the bowels are usually confined, and the urine is scanty and very high coloured; there is also intense pain and tenderness over the abdomen; the uterine discharge is arrested, and the milk disappears, the breasts becoming flaccid.

The treatment consists in the application of a considerable number of leeches to the abdomen; hot poultices and fomentations should be used constantly; the bowels should be relieved by an enema, composed of a quart of gruel, with one ounce of castor-oil, and the same of spirit of turpentine, and calomel, with opium or morphine, should be given freely at short intervals; but even the most skilful and experienced medical man will often fail in his endeavours to arrest the progress of this fatal disease.

WHITE LEG.

This is a very troublesome disease, occurring occasionally after child-birth. It seems to be essentially connected with an inflammatory state of the veins of the leg, depending on some peculiar state of one of the large trunk veins situated higher up, in the neighbourhood of the womb. The leg and thigh become tender, swollen, and stiff, but are of a pale colour; there is usually great general irritation.

The treatment consists in the free use of aperients, such as F. 68, 69; salines may then be given, such as F. 103, 111, and alteratives at night, such as the compound calomel pill, or F. 1 or 3, night and morning. Hot fomentations should be used to the limb in the first instance, and subsequently it should be gently rubbed night and morning with mercurial ointment, diluted with an equal quantity of lard, finely-powdered camphor being added in the proportion of one drachm to the ounce. The use of the mercury should not be carried to salivation. Quinine will subsequently be desirable, and may be taken three

times a day, as in F. 162. Bandaging the limb lightly with a flannel roller will also be requisite. Until convalescent, the patient must of course observe the recumbent position.

PUERPERAL INSANITY.

This fearful complaint apparently originates in the violent shock which the nervous system receives at child-birth, and the great constitutional change which then takes place; some other cause of irritation and excitement usually combines to rouse the disease. If within a few days or weeks after confinement much restlessness and excitability come on, with wildness about the eyes, sleeplessness, and delirium, the disease is probably impending. It requires the treatment of acute mania, and is usually curable.

TURN OF LIFE.

About the age of forty-five the second great alteration takes place in the female constitution. This is connected with the cessation of the menstrual function, and of the capacity for child-bearing, and is an important period of existence, exerting much influence on the future well-being. The change which then occurs, though one of serious moment, hardly receives as much attention, or is treated with as much precaution, as is desirable. Some women get over the change with but little apparent inconvenience, while others suffer severely, but in either case a peculiar morbid predisposition is set up, which requires to be guarded against and counteracted. Menstruation may cease suddenly, or it may disappear gradually, abating almost imperceptibly; it may become more and more uncertain and irregular, until it is finally lost, and sometimes also it will occur in excess for some short time prior to its cessation. At the *turn of life* the habit of the body usually becomes much fuller, and no doubt there is considerable change in the state of the blood; the nervous system also is, of course, influenced, and is apt to become languid and oppressed; the circulation goes on more tardily, and general secretive energy is often deficient and imperfect. Thus we have a state of chronic congestion instituted, which is the foundation of many female ailments, that date their commencement from this period of life, and irritation and excitement will often become active, secondarily, in promoting the development of disease. Thus dyspepsia, cancer, and many nervous affections may originate.

The medical management of the *turn of life* should consist in the avoidance of undue excitement and over-exertion. Mental and bodily employment are, however, in the highest degree desirable, and regular and sufficient exercise should be taken. The diet should be modified according to circumstances, and generally somewhat reduced; especially as to its richer and more stimulating ingredients, such as wine and beer, or any excess of animal and oily food. Too much sleep should not be indulged in, and cold sponging over the surface every morning will be desirable. The action of the bowels should be carefully regulated, and from time to time aperients, such as F. 29, 42, 44, will be requisite. The combination of alteratives with the aperients is often desirable, when such pills as F. 36, 37, 38, can be made use of, or three or four grains of blue pill, or a compound calomel pill, may be taken at bed-time, followed up in the morning with a Seidlitz powder, or F. 44 or 68. In some cases, where there is a sluggish torpid state of system, the habitual administration of aloetics may be desirable, such as the compound decoction of aloes, taken once or twice a day, or the pills F. 32, 34, or 35, every night or night and morning. But in all cases where any peculiar symptoms arise at the period when menstrual cessation may be expected, there can be no doubt that it is highly advisable for a female to consult a medical man as to the course which it is desirable for her to pursue, and by so doing she will be able to avoid much discomfort, and also diminish her liability to incur some serious malady at a subsequent period.

INFANTILE HEALTH AND DISEASE.

THE organization of the body of a human being at its earliest period of life is fragile and delicate, and requires evidently far more care and protection than when the lapse of years has afforded it strength, and the force of habit has made it familiar with the influence of external agency. As the fulness of growth and development is attained, the instinct of self-preservation is gradually augmented, and the power of reason also comes to aid and promote the independent well-being when it is not interfered with and negatived by the errors of our passions and education. The new-born babe is in a state of perfect helplessness, and its future welfare depends entirely on the care and conduct of those around it. Thus it becomes the duty of all who are concerned in the management of children carefully to study and observe them, in order to minister to their health and comfort. The attempt to do too much for infants, however, is no less prejudicial than neglect or doing too little, for we must remember that they are far nearer a state of nature than when, at a later period, they come under the influence of education and civilization. That there is much difference in the constitution of infants, both bodily and mentally, from the earliest period, which require different treatment, there can be no doubt, but certain general rules of management may, at any rate, be laid down as applicable to all.

Food, warmth, sleep, exercise, and cleanliness, are the first subjects for our consideration.

First: Food. During the first two, four, six, or perhaps eight months of life, as a general rule the child only requires the breast-milk for its nourishment, but from many causes that nourishment may be partially insufficient, and even entirely so; in such case we must provide a substitute resembling the natural sustenance, and adapted to the digestive power of the infant. For the first two months there is nothing more suitable than a mixture of equal quantities of new milk and barley-water, sweetened with a little loaf sugar. For the next two months the food should be similar, varying it by substituting occasionally gruel made with biscuit-powder or baked flour for the barley-water. Where the child is weakly, a little beef-tea may be given with the barley-water or gruel, especially if milk seem to disagree. All fluid food should be given by means of a feeding-bottle with a prepared nipple, by which means the food is taken more slowly, and the exertion of sucking is certainly beneficial to the infant. When something more solid is desirable, in consequence of the child not appearing satisfied, rusks boiled in water and beat up to the consistence of pap, which must be slightly sweetened, will answer the purpose. From four to eight months the food must be rendered still more substantial; arrowroot made partly with milk, rice gruel, bread and milk, light broth and bread, are now also available articles of diet, and after eight months, egg, light puddings, such as rice, bread, &c., may be made use of. After six or eight months, a child almost always requires feeding twice or three times a day in addition to the breast-milk, and this will be necessary at an earlier period if the milk is insufficient in quantity and poor in quality. Cow's milk should be diluted for young children. We should always be careful to avoid over-feeding; every two or three hours is sufficiently often to give food to the youngest infant, and, after three months, four hours ought to intervene between the feedings or nursings. Time ought to be given for the food to digest, and the stomach, therefore, must

not be kept constantly loaded. After twelve months, animal food, in the shape of broth or solid meat, cut fine, should be given every other day, and after two or three years old it may be given to a child once daily; great care, however, ought still to be taken to avoid over-feeding. Four times a day is not too often for food to be taken in moderation. When after meals we find heaviness, unwillingness for exertion, occasional headache, pain or uneasiness in the abdomen, and a tendency to derangement of the bowels, inclining to diarrhœa, then we have good reason to believe that the child is over-fed, or that the diet is unwholesome. Any irritation of the stomach and bowels of young children will produce acidity; this acidity gives rise to griping and pain, and this constitutes the commonest cause of the restlessness and peevishness of infants. When a child is constantly irritable and evidently suffering, we must carefully search into the nature of the food, and alter its character in such respect as may seem desirable; we must also inquire as to the diet of the mother, and correct any irregularity which may appear likely to influence the milk. Over-suckling is a great evil both in reference to mother and infant; twelve months ought to limit the nursing at the breast; for any further period the advantage derived by the child certainly cannot in any way compensate for the injury which accrues to the mother.

Second: Warmth is almost as essential to a young child as food, and the utmost care ought to be taken to maintain a proper heat of the surface. In the winter the cradle-bed should be softer, and the covering, though light, warmer than in the summer, and the temperature of the room should not be suffered to become chilly; but the child is on no account to be debarred from air, having its head and mouth smothered up, as is too often the case. Clothing is but a means of warmth, and should be proportioned to the occasion there is for it. The belly-band should be of thin flannel, sewed on and not applied too tightly, as it is intended to give support merely, and not to cause pressure. A linen shirt of moderate length, and a flannel petticoat somewhat longer fastened behind with strings, should constitute the under clothing; over this should be a loose gown or robe, extending ten or twelve inches below the feet, of warmer texture in winter than in summer; this should be fastened on with a band or strings, the use of pins being altogether avoided. A soft muslin or light woollen cap is very preferable to the hard starched receptacle in which an infant's head is usually imbedded. At four months the dress may be shortened, but it should not be brought to the level of the feet much before the child is twelve months old. Extra clothing in the shape of a wrapper should always be made use of when an infant is exposed to a lower temperature than it is accustomed to, and it should be carefully observed that it is thoroughly and comfortably warm before being taken into the open air. I do not advocate that a child is to be coddled or treated as a hothouse plant, but that it be kept at a mild genial warmth, and that one degree of temperature be not suddenly exchanged for another without due precaution being taken to guard from the ill effects that may arise therefrom.

Third: Sleep. A large proportion of sleep is required by an infant, but it should be taken at intervals, and, by proper management, a considerable part of it may be had at night. Too great or constant drowsiness generally indicates injudicious or over-feeding, and especially if it occur during the day, when it often leaves the night restless and disturbed. Till the age of five or six years an hour or two of sleep in the middle of the day is decidedly beneficial.

Fourth: Exercise. A certain amount of passive exercise in the arms of a nurse is desirable for an infant, but after a few weeks its own spontaneous exertion should be decidedly encouraged, and it should be suffered to roll about on a bed, or large mattress, or soft carpet, so as to learn to move its limbs, thus it will much the sooner be able to crawl about, and even to walk. The caout-

chouc baby-jumpers are very well in their way for occasional use, as they afford amusement as well as some sort of exercise, but not habitually. Until a child has sufficient strength in its legs to stand well, it should not be forced to walk, though it should be aided and encouraged in any attempt of its own. Regular daily exercise out of doors, when the weather permits, is highly advantageous, for inhaling the fresh air cannot fail to promote the development of constitutional strength: the caution given under the head of Warinthe ought to be carefully observed, and if there be any appearance of chilliness, the child should be taken in doors as speedily as possible.

Fifth: Cleanliness. The thorough use of the tepid bath should be daily resorted to for children, and not the mere wipe and rub which is often indulged in. The free action of the skin is thus promoted, and much irritability is prevented. After the infant has gone through the first few months of existence, we may resort to sponging with cold water, using salt and water if there be any appearance of scrofulous debility, or if the child be unnaturally stout; but we must take care to dry the surface thoroughly afterwards, and produce the glow of reaction by rubbing the surface well with a soft flannel. It is desirable to commence the cold sponging in the warm weather, as it is then more agreeable to a child's feelings. The napkins should be changed as soon as possible when soiled or wetted, and it would be well if they were made less bulky and of softer material than is usually the case.

The medical management and treatment of infants requires some special consideration and observation, for though young children are liable to suffer with the diseases of adults, yet at an early age all complaints occur in a modified form, and some are quite peculiar to that early period of life. The constitution of the infant is of course much weaker, and more delicate than that of the adult, and even more so in proportion in some respects than in others, while at the same time there is a much greater amount of impressibility or sensitiveness in the infant's nervous system than in that of a grown-up person. These circumstances give the peculiar character to infantile complaints. A young child is soon prostrated and overcome by the violence of disease, or any severity of treatment, and thus it will die long before a disease has attained the same degree of intensity that it would do in the adult; and again, the ailment in the infant is apt to produce a much greater degree of irritation and excitement, which often alters the character of a complaint, and makes it assume quite a different nature from that which would be the case in a grown-up person. Irritation, in fact, is a main feature of all infantile complaints, and in treating them our endeavours must be mainly directed, firstly, to search out the cause of irritation, and to remove it as speedily as possible; secondly, to soothe and allay the irritation by every means in our power, and to prevent its being converted into inflammation, which would speedily occasion a fatal amount of damage. When, on the other hand, inflammation has set up in the first instance, the irritation which it causes and consequent excitement, will soon prove too much for the delicate organization of an infant to bear, and, therefore, while we use all due means to subdue the primary inflammation, we must ever bear in mind that irritation is decidedly a part of the disease, far more important than were the patient adult, and that the abatement thereof must still form an essential point of treatment.

We will now offer a few remarks on the medical management of infants in reference to those complaints to which they are especially liable, and we shall find there are some altogether peculiar to infancy, and others which are only peculiar in certain respects, more particularly in the treatment. In the newborn infant the first thing to be attended to is the thorough evacuation of the bowels of the fecal mass which has there accumulated. The evacuation may

take place spontaneously, or after feeding with a little sweetened milk and water, which should be done as soon as the child is dressed. After three or four hours, if the bowels are not freely relieved, a little castor oil, twenty or thirty drops, should be given with a little more milk and water, and in any case this can do no harm. But when the child can be put to the breast, which should be done as soon as the mother has somewhat recovered from her fatigue, the milk will supersede the further administration of medicine, and thoroughly cleanse the infant's system, as the first milk possesses a decided aperient action.

JAUUNDICE.—After a few days an infant will not unfrequently become somewhat jaundiced from the bile not passing off properly; this is usually a matter of little consequence, and requires merely the occasional administration of a little castor oil, or about twenty grains of manna dissolved in a little milk and water.

EXCORIATIONS.—When an infant becomes chafed, it is usually from bad management, as in want of cleanliness, insufficient drying after washing, friction or pressure, especially when the surface has not been well powdered. In washing, the water should never be used too warm. Should any application be requisite, a little of the ointment F. 62, used night and morning, will be found very effectual.

APHTHA OR THRUSH.—This is also known as *the baby's sore mouth*, and generally occurs within the first few months of life. It consists in a number of white spots, which are superficial ulcerations, commencing inside the lower lip, and near the corners of the mouth, often spreading rapidly over the entire surface of the tongue, gums, and cheeks. This complaint is owing to a deranged state of the stomach and bowels. There may be a relaxed or costive state, but the secretions are evidently vitiated, the motions not being of their natural ochre colour. There is sometimes vomiting, and the milk is rejected as soon as taken. Over-feeding, either from the breast or with artificial food, which may be too heavy and stimulating, is the common cause of thrush. This point must be looked to and altered if requisite, and we must also take care that the mother's diet is not of too rich and exciting character, or such as is calculated to cause acidity.

Treatment in a medical point of view must be general and local. The bowels should in the first instance be thoroughly relieved with a little castor oil or dissolved manna, repeated at intervals until it produces the desired effect, and this may be preceded with a grain or two of grey powder if the secretion of the bowels be much disordered. To cool the system and allay the irritation, a little fluid magnesia may be given at intervals, a teaspoonful with a little warm water and sugar, or the mixture F. 28, if there be griping or pain, and a little tincture of henbane may be added to it if there be much irritation. The best local application is the medicated honey, F. 134, without the tincture of myrrh, a little of which should be smeared round the inside of the mouth three or four times a day: no injury will be occasioned by this being swallowed.

RED GUM.—A complaint of little consequence; it consists in a diffused patchy rash of red spots, appearing over a great part of the surface of the body. There is no constitutional disturbance, and very little irritation. It usually depends on an acid state of the mother's milk from diet or any over-excitement. A little of the fluid magnesia, or three or four grains of calcined magnesia, two or three times a day, will be all that is requisite, and the infant should be washed with water a little warmer than usual.

HICCUP.—Infants often suffer from this troublesome spasm. Wind on the stomach, or its over-distension with food, are the common causes. It may usually be relieved with a little of the mixture F. 154.

COSTIVENESS is sometimes troublesome in an infant. As already mentioned, mauna, castor oil, and calcined magnesia are our best remedies in early infancy, and generally suffice: if necessary, however, we can make use of F. 48, 50, or 52, which will also serve to allay griping when present. For an older child F. 42, 49, 73, 74 are suitable.

DIARRHŒA.—This affection is common in infants, and is readily caused by any irritation of the bowels, owing to the state of the mother's milk, the nature of the food, &c. Exposure of an infant to a lower temperature than that to which it is habituated, causing a sudden chill, will also often give rise to the complaint. When diarrhœa occurs severely, or has been of some duration in an infant or young child, the food will often pass through the bowels in an almost unaltered state, showing the due digestive process to be nearly at a stand-still: some sickness and griping pain are often present.

Treatment.—We must endeavour to ascertain how the diseased state has been occasioned, and correct the cause. If we consider that there is any hurtful matter in the stomach or bowels, a little castor oil should be given, and if the secretions from the bowels appear to be very unhealthy, the evacuations being strong-smelling, unduly dark, or pale in colour, then we should precede the castor oil two or three hours with a little grey powder, one to three grains for an infant under twelve months old, and from two to five grains for an older child: we may substitute the aperient mixtures F. 49, 51 for the castor oil, or one of the powders F. 50 may be given in the first instance: F. 28 will then often be useful for young infants, or, if the relaxation of the bowels continue, we may resort to the chalk mixture, in doses of a teaspoonful every two, four, or six hours, adding four or five drops of tincture of henbane to each dose, and, if this be ineffectual, we may use the mixture F. 114, of which from half a teaspoonful to a teaspoonful may be given every three or four hours, if requisite, to an infant under twelve months, and a proportionate quantity for an older child, but we must carefully watch the effect of the opium contained, as it is apt to exert undue influence on young children. When we suspect the diarrhœa to have been occasioned by a chill, a warm bath is decidedly desirable.

GRIPING.—We have mentioned this symptom as presenting itself in infants in connection with costiveness or diarrhœa, when it must be treated accordingly. It may occur by itself, and then it usually depends on acidity or flatulency being present in the stomach or bowels: the motions are often green or curdled. In such a case a little of the fluid magnesia or of the calcined should be given occasionally, once or twice a day, or if necessary we may administer either F. 28 or 154.

CHOLERA.—In infants this is an exceedingly dangerous disease, though not of the same character as the real cholera of adults. There is violent vomiting and purging, and the discharge from the bowels is of highly bilious character: there is considerable spasmodic uneasiness. The copious evacuations and the general irritation soon exhaust the little sufferer; it becomes cold and pulseless, and is speedily no more: sometimes it happens that diarrhœa is arrested for awhile, and then recurs again, until the child is worn out.

Treatment.—A warm bath should be resorted to, and a mustard poultice should then be applied over the surface of the abdomen. The mixture F. 114 should then be given in doses of from half a teaspoonful to a whole one, every

time the bowels are opened, until some relief is afforded. Diluent fluids lukewarm, such as milk and water, rice gruel, and mutton broth thickened with barley, should be given freely at short intervals. Especial care must be taken to maintain the warmth of the surface.

VACCINATION.—This operation is best performed at the age of about three months, while the constitution is yet untainted with any disease, and before the irritation of teething commences. The infant should be in good health. A mild aperient may be desirable after the vaccination, but it should on no account be given until the tenth or twelfth day. The arm should be carefully protected from friction while inflamed, and if very tender and irritable, may be bathed occasionally with a little goulard water, or the lotion F. 123. (*See COW-POX*, p. 50.)

PROTRUSION OF THE BOWEL not unfrequently occurs in weakly infants from a relaxed state of system. When the bowel is down it should be well anointed with lard, and then be carefully returned as soon as possible by means of steady and gentle pressure. The child should not be permitted to strain, but must have the buttocks well held together for a time, so as to press upon and support the fundament. If the case be very troublesome, about a table-spoonful of the lotion F. 11, with the same quantity of warm water, may be thrown up each time the gut comes down. The bowels must of course be regulated according to circumstances.

TEETHING, OR DENTITION.—The first dentition is one of the most important processes of childhood, but being a natural one, it will generally take place with only a little inconvenience in a healthy child. It may, however, affect the constitution of the child materially, especially if it be naturally delicate or unhealthy, or rendered so by bad management and nursing during the first months of its life. Teething usually begins between the sixth and ninth months, but may be earlier or later. Within the period of eighteen months, the first set or milk teeth are usually acquired; they are sixteen in number, and commonly make their appearance in pairs, those of the lower jaw being earlier in presenting themselves. We first have the middle two of the incisors of the lower jaw, and within a few weeks those of the upper one. There is then a pause before the two lateral incisors of either jaw appear. After a still longer interval, the infant then cuts the four double teeth, first the lower, then the upper ones, leaving intervals between them and the incisors for the two canine teeth in the lower jaw and the two eye teeth in the upper one, which may not be filled up for some length of time. Thus the first set of teeth are completed, which after the lapse of seven or eight years have to be replaced by those which constitute the permanent set, thirty-two in number, having the addition of eight molar and four wisdom teeth, which last are often a long time after the others before they make their appearance. The process of the first dentition usually takes the course above described: there may, however, be much irregularity as to the order in which the teeth pass through the gums, and the times at which they present themselves.

Teething is usually accompanied by various symptoms. The child slobbers more than usual; the gums swell and become hot, the fingers are often in the mouth; the face is apt to flush; there is much restlessness; the sleep may be somewhat disturbed, and there may be a little fever. But so far, there is nothing of any consequence, or that requires particular attention. Care must be taken not to over-feed the child, nor to expose it to cold, nor to over-excite it, and the daily bath may be a little warmer than usual. More constitutional disturbance may, however, be connected with the teething, depending on the

irritation occasioned thereby, and it must then be carefully looked to. We shall find the symptoms which teething gives rise to closely connected with the irritation, and to allay this must be our great object. For this purpose our best medicine is generally henbane, which is no less simple and valuable than it is harmless. The syrup F. 121 is a good mode of administering it when it is required. There may be excessive local pain, when we find the gums swollen, hot, and tender to the touch: the gum lancet ought then to be freely used, an incision being made along the crown of the gum over where the tooth is expected to appear, and the edge of the instrument should be carried to a sufficient depth to bear on the surface of the tooth. The henbane may be given if required. Cough is sometimes troublesome during teething, but may usually be relieved with a little henbane or the mixture F. 119: we must, however, be careful lest the cough and irritation pass into a state of inflammation. Sickness occasionally occurs, causing the rejection of the milk or food soon after it is taken; in such cases great care must be observed not to overload the stomach, only a little food being allowed at one time. A somewhat relaxed state of the bowels is apt to accompany dentition; this is rather advantageous than otherwise, but if in excess must be treated like ordinary diarrhoea. If the motions are of unnatural colour, clayey, green, &c., showing the secretions to be unhealthy, one of the powders F. 13 may be given each night, or even night and morning. Convulsions are of common occurrence during teething, and must be met with appropriate treatment. Our best means of prevention are lancing the gums, warm baths, careful regulation of the diet, maintaining due action of the bowels and a healthy state of the secretions, and soothing the system by the occasional use of henbane. Eruptions are often caused by teething, and usually require nothing but a little alterative and aperient medicine. Fever will sometimes accompany dentition; it generally assumes an irregular and remittent character, but does not run very high. Our treatment must be gentle and soothing, consisting of mild aperients, such as castor oil, F. 50 or 52, and febrifuge medicine, such as F. 119, reducing the diet, occasional warm baths, and lancing the gums if absolutely necessary. Such are the commonest results of teething, but at the same time we must remember that the infant's system is then laid open to the severest attacks of inflammation, though it is but rarely they occur.

SORE EARS.—Slight ulceration is very apt to occur behind the ears of infants while teething, and is but of little consequence. The ears should be kept very clean, and a piece of singed rag applied so as to keep the air being rubbed. If necessary, a little of the ointment F. 62 may be used: if there be much inflammation, a warm bread and milk poultice may be applied; and, as the stomach is generally disordered, two or three of the powders F. 13 will be advisable.

EARACHE, OR DISCHARGE FROM THE EARS.—These are of very common occurrence in children, and even in infants. Discharge from the ear often follows the earache, and is apt to occur in connexion with dentition, after scarlet fever, measles, or without any previous complaint. It is of much consequence to cure it, as it often lays the foundation of permanent deafness in after life. A little astringent injection, three grains of sulphate of zinc to one ounce of rose water, should be used warm night and morning; one small syringeful will suffice, the ear being first washed with warm water and freed from discharge, and after the injection it should be well dried out. A very small blister may be applied once a week behind the ear, a gentle aperient or alterative powder, such as F. 13, should be given every night or each alternate night, and most especially the interior of the ear should be protected from the cold air by the insertion of

a small loose portion of raw sheep's wool applied each morning and removed again at bedtime. (*See* *EARACHE*, p. 59.)

ERUPTIONS of various kinds are of common occurrence in infancy, but rarely of serious consequence; they usually occur from teething, injudicious diet, want of cleanliness, derangement of the stomach and bowels, and by counteracting the cause of the mischief we can usually get rid of them pretty readily. There is an eruption of pustular or mattery heads, forming large patches, which is apt to occur during dentition over a greater or less extent of the surface, especially of the face, and which is sometimes very troublesome. It requires the diet to be lowered and regulated, active aperients to be given, such as F. 49 or 50, the warm bath to be used regularly, and the ointment F. 62 may be applied over the diseased part. (*See also* *ERUPTIONS*, p. 60.)

CONVULSIONS are of common occurrence in infants, and may arise from any irritating cause: teething, deranged stomach, suppressed eruptive disease. (*See* *CONVULSIONS*, p. 49.)

WEANING.—This is an important period for the welfare of an infant, and unless well and judiciously managed may be attended with much inconvenience and even danger. The time of weaning is between the seventh and twelfth months, and the child should have got the four front teeth, and, as a general rule, the health ought to be good at the time, but sometimes a state of debility or irritation will be the very occasion of the necessity for weaning—that is, when the mother's milk does not agree—but appears to be the cause of the evil. The child may of course be weaned more readily if it have been previously partially fed, as we are then aware as to the nature of the food which suits it, and when an infant is healthy and thriving, and takes kindly to its artificial food, the weaning may then be easily effected so as to avoid any inconvenience to either mother or child, for we have only gradually to increase the quantity of food and frequency of feeding, while at the same time the breast is given more sparingly and at longer intervals. When the weaning is sudden, we must, however, take care that the material which is substituted for the mother's milk is not heavy and indigestible: thus, when an infant has lived partly at the breast and partly on more solid sustenance, such as tops and bottoms, or biscuit powder, we must not at once double the amount of artificial nourishment ordinarily given, but in the first place make good the deprivation with that which is somewhat lighter, such as barley-water and milk, or arrowroot, or rice gruel, with one-third milk added thereto. The change must be gradual, as the delicate constitution of the infant is not calculated to bear that which is harsh or sudden. When a lately-weaned child is suddenly attacked with any acute disease, such as hooping-cough, it may again require the breast, and if a delicate child after weaning should fail to thrive on artificial nourishment, pining and falling away, it will be desirable, and indeed may be absolutely requisite, to procure it a good breast of milk, and so afford it the most genial support. Diarrhœa, griping, and convulsions, are the common results of injudicious weaning.

HOOPING COUGH.—We may here remark that this disease is excessively dangerous and fatal in infants: the danger is not in the disease itself, but in the inflammation of the lungs which is apt to supervene upon it; and to ward this off frequently requires the greatest care. We should somewhat lower the diet; the occasional use of warm baths at night is advisable; fresh pure air is desirable, but any chill must be most cautiously avoided; and for the cure of the mere

spasmodic state we may chiefly rely on the assiduous use of anodyne frictions as directed elsewhere. (*See HOOPING COUGH*, p. 78.)

WORMS.—The small thread-worms are the only ones which infest very young children, and when there is occasionally evident uneasiness and straining, sudden screaming, and drawing up the legs, without the bowels being obviously disordered or the belly tender on pressure, we may suspect their presence, and watch for any appearance of them. The injection of a small teaspoonful of salt dissolved in two or three ounces of warm thin gruel will usually destroy the vermin, and if irritation of the bowel remain, subsequently a little sweet oil should be thrown up. (*See WORMS*, p. 130.)

WATER ON THE BRAIN, OR HYDROCEPHALUS.—This most dangerous disease depends on a peculiar kind of inflammation which is apt to occur in scrofulous constitutions. The irritation of teething, derangement of the stomach and bowels, hooping cough, or blows on the head, are the common exciting causes of it. The disease may assume an acute and violent character, tending rapidly to a fatal termination, or it may come on gradually, being slow and chronic in its nature; and the first stage may run into the second. In the first form of water on the brain there is fever, with a very quick pulse, the child is restless and irritable, the sleep is much disturbed, the pupils of the eyes are contracted, and there is great intolerance of light: the face flushes occasionally, and the brows are knit and frowning; there is evidently pain in the head, the little sufferer rolling it about and raising the hand to it often, and there is much heat of scalp; there is occasional retching even from the outset of the disease. These symptoms may continue to increase until violent convulsions come on, which finally terminate in death. The attack will generally occupy three or four days. Life may, however, be prolonged, when the pulse becomes slow and irregular, the breathing is oppressed and interrupted with sighing and moaning, the pupils are dilated and slow to act, and there is squinting: there is partial loss of the power of movement, and a state of stupor, from which, however, at times the child may appear to revive; the water is passed involuntarily, and the same may be the case with the stools, but in these cases there is often constipation, especially in the commencement. This state may last many days, interrupted at varying intervals by convulsions; rapid emaciation takes place, and there is much falling-in of the belly; the power of swallowing is at length lost, complete insensibility supervenes, the breathing becomes more interrupted, the pulse fails, and life probably terminates with a series of convulsive efforts. If the patient should recover from the disease, it generally leaves a strong impression through after life, and a tendency to head affections and insanity.

The chronic form of water on the brain, which is more popularly recognised, comes on much more insidiously, presenting little or no inflammatory character; the constitution of the child then has time to accommodate itself thereto, and it may continue for years, even until some other disease causes death. There is usually restlessness, irritability, and some pain in the head, but this is mixed up with much heaviness and tendency to stupor; there is occasional retching, and the bowels are inclined to be confined; there may be some loss of muscular power, and the mental faculties are generally more or less affected; there may be squinting, and the senses may be more or less impaired. But the characteristic symptom of the disease is enlargement of the head, which takes place very gradually, sometimes increasing to an immense size: this is occasioned by the effusion of watery fluid into the cavities of the brain, which gradually expand it, and by the consequent pressure causes the skull itself to become enlarged and deformed. The disease may stop at a certain point, and the head remain permanently enlarged, of which examples are by no means uncommon.

The first form of the disease may present itself at any period of childhood, the second usually originates in early infancy.

Treatment.—That of the first form of water on the brain should be very active. The head should be shaved, and as many leeches should be applied to the temples as can be borne; cold water, and even ice, should then be kept applied over the scalp; the bowels should be acted on very freely with powders composed of from three to five grains of compoundseammony powder with one grain of calomel, repeated every four hours until sufficient effect is produced. After this, if there be not speedy amendment, we should proceed to the administration of either calomel or of wine of colchicum, in such doses as can be borne, at short intervals. If a heavy lethargic condition present itself, a blister between the shoulders will be desirable. In our treatment we must be careful not to exhaust the little patient too much, but afford such support as may be necessary. Perfect quiet is essential during the continuance of the disease, and during convalescence the avoidance of all excitement and irritation is of high importance. The treatment of the second form of water on the brain is very different from what we have just described. We must endeavour to search out and counteract the cause in which it originates, and here, of course, we have time. The bowels must be freely acted on, and the secretions must be brought into a healthy state; for this purpose the powder F. 50 given every night, or night and morning, will usually suffice. The grey powder, in doses of two or three grains, or even half-grain doses of calomel, should be given twice or three times a day. Occasional blisters between the shoulders will do good. When the disease has assumed quite a passive state, we may resort to the alterative medicine F. 5, or to the administration of the iodide of potassium as per F. 7, in half-teaspoonful doses. The head should be kept shaved and cool. The diet should be scrupulously regulated. Compression of the head by means of bandaging has been found of great service in chronic cases of water on the brain.

REMITTENT FEVER.—Fever often occurs in young children, owing to some local irritation, such as teething, deranged stomach, &c., and it may continue for some time after the cause has apparently been removed. This fever is apt to assume what is termed a remittent character—that is, at one time it will subside, and then recur again, varying much in symptoms and degree until it arrives at the crisis or turn. The fever will usually be worse towards evening. These cases may last a week, ten days, or a fortnight. They are rarely dangerous, though the child may be left in a reduced and debilitated condition.

The treatment consists in attending to the state of the bowels, acting on them with a little grey powder, followed by castor oil, or such medicines as F. 48, 49, 52, and then we may give the fever medicine F. 119, 122, as required. An occasional warm bath, and the regulation of the diet, making it light and chiefly fluid, constitute the remainder of the treatment. A state of after debility may require extra nourishment, and two or three grains of citrate of iron, given twice or three times a day in a little sweetened sherry and water, will be beneficial.

ERUPTIVE FEVERS.—Of these we have already spoken fully (*see* CHICKEN POX, p. 41; SCARLATINA, p. 113; MEASLES, p. 96; SMALL POX, p. 120; NETTLE RASH, p. 99), and therefore we have now but little further to say on the subject. In scarlatina and measles we must remember that we have to dread any subsequent consequences, almost as much as the diseases themselves; we must, therefore, be careful to observe the necessary after-management and treatment. During scarlet fever the great danger, especially in young children, is connected with the throat affection. We must therefore endeavour to keep

it clear by every possible means, not forgetting the timely administration of emetics. Subsequently there is risk of dropsy, inflammation of the bowels, &c., and these are generally occasioned by undue exposure of the new and delicate skin (the old one having peeled off) to the influence of the atmosphere, by which it is easily chilled, and its secreting power arrested. During measles we have to fear inflammation of the lungs, and therefore must guard against the eruption being checked in any way. Measles also leave behind them a tendency to chest complaints, and affections of the different mucous membranes, especially in delicate children, and therefore we must avoid injudicious exposure to the weather for some time after the occurrence of the disease.

ABSCESS.

An abscess or gathering consists of a collection of matter, and may take place in any part of the body. It is a result of inflammation. An acute or common abscess is formed in a few days; a chronic or scrofulous abscess may be many weeks in forming. An abscess is thus formed: A deposition of solid substance first takes place throughout the inflamed structure, causing swelling and hardening, and the secretion of purulent matter then commences towards the centre, room being made for it by the absorption of the structure affected, and of the solid substance deposited, which are partly removed and partly broken up into small fragments. As far as the inflammation goes, so far does the formation of matter extend, distending the newly-made cavity. A further degree of inflammation serves to build up the walls of the abscess, and prevent it becoming more diffused. As a general rule an abscess tends to press and work its way towards the external surface; when, however, it is deeply situated in one of the internal organs, it will generally reach some internal free surface; thus an abscess of the liver may break externally, or into the air passages, or into the alimentary canal. When the abscess is formed in a healthy person, the matter or pus is yellowish-white in colour and creamy in consistence, and it is circumscribed within a certain space, in the manner in which I have mentioned, and such is generally the case; but when the matter is thin, curdy, and bloody, and diffused through the cellular tissue, it is evident that the constitution of the patient is unhealthy, and has no power of reaction. The formation of an abscess is indicated when the acute pain of inflammation is partially replaced by a sense of weight and throbbing; the swelling becomes more elevated and soft; it rises at a central point, which becomes paler in colour than the surrounding surface, and here the skin is gradually rendered thinner; until at length it gives way and suffers the matter to escape. As soon as matter is formed, it will be evident to the practised touch by the sense of fluctuation which the collection of fluid affords on pressure.

Treatment.—When once an abscess begins to form, it is our object to encourage it to a certain extent, and bring it to a head or crisis as speedily as possible. Warmth and moisture most conduce to this end, and may be used in the shape of fomentations of hot water or of decoction of poppy-heads and camomiles, applied with flannel or spongio-piline, and also in the form of poultices of bread and water or linseed meal. If, when ripe, that is, when the matter is fully formed and pointing towards the surface, the abscess does not promptly break, it should be opened with a lancet, as the continued presence of the matter does no good. After discharging pretty freely through the natural or artificial aperture, which must be promoted by gentle pressure, a slip of lint should be inserted with a probe, so as to maintain an opening for the discharge, which should be let out once or twice in the twenty-four hours, fresh lint being introduced. If there be much tenderness and swelling remaining, poultices may be continued for a short time, but generally spongio-piline or a pad of linen, wet with cold water, placed over the inflamed surface, so as not to interfere with the opening, and retained in its place with a light dry bandage, which will make some slight pressure, is the best dressing. When the abscess forms deeply, close to a bone, or beneath any tendinous membrane, as in the finger, the palm of the hand, or the sole of the foot, it must be opened early, as

otherwise the matter will only burrow, and cause much irritation. Unhealthy abscesses must be treated locally as above, but judicious pressure and support are of much consequence to promote their healing; and the same may be said of all abscesses in loose cellular structure, when adhesive or soap plaster, cut in strips, may often be applied with great advantage. To this we have referred, in speaking of milk abscesses, under the head of FEMALE COMPLAINTS.

The primary constitutional treatment of abscesses is embraced under the head of inflammation. Mild saline aperients, such as F. 105 or 110, or merely a little Epsom salts from time to time, may be administered through the course of the disease. If there be much pain or irritation, F. 17 may be desirable, or the anodyne F. 15 may be given at bed-time. When the abscess occurs in a healthy constitution, which is generally owing to some accidental injury, and is attended by much inflammation, the diet should be low, but if it be connected with debility, either at first, or in any part of its course, then the diet must be abundantly nutritious, and, if necessary, be accompanied with beer, wine, &c. Tonic medicines, especially quinine, are then essentially requisite, and F. 156, 157, 159, or 163, may be resorted to. In cases of abscess it is of high consequence to recognise as soon as debility preponderates in the system, for there can be no doubt that, by the timely and judicious administration of bark or quinine, the process of suppuration may often be arrested, or, at any rate, much modified. Quinsy and milk abscesses will often afford marked instances of the fact.

BOILS.

These are small, hard, painful swellings—in fact, spots of inflammation—in which a little matter is formed, and often in the centre there is some hard substance, or a core. Boils depend on the state of the blood, and are apt to occur when the living has been too good, and at the same time the tone or strength of the constitution has become lowered by change of season, want of exercise, or other over-indulgence. They may require poulticing for a time, both before and after breaking, and if much inflamed, a little ointment of lead may also be applied. If they do not readily break, they may be opened with the point of a lancet. If they be indolent, and unready to heal after breaking or being opened, the dilute nitric oxide of mercury ointment may be used as dressing. When boils are numerous, and come in succession, some constitutional treatment is desirable. A blue pill and the draught F. 68 may be taken, if the subject be tolerably strong and healthy, or two of the pills F. 36 may be taken at night, and repeated two or three times at intervals, if required. When symptoms of debility exist, strengthening medicine should be given. F. 47 is a good form of tonic aperient. F. 158, 162, and 166, are good tonic combinations, which can be resorted to according to circumstances. When much digestive derangement accompanies the debility, the pill F. 1, and the mixture F. 42, or a moderate dose of decoction of aloes in the morning, may be resorted to in the first instance. When numerous boils come successively, the best local treatment is to pencil them well over with lunar caustic two or three times, as soon as ever they appear.

GUM-BOILS consist of inflammation of the gums, leading to the formation of matter. They are generally connected with decayed teeth, or disease of their roots or sockets. Cold will usually excite the mischief. If there be much inflammation, hot fomentations and poultices should be applied, and an aperient be given. As soon as ever the matter is formed, the gum lancet should be used, and if the tooth concerned be much decayed, it should be got rid of as soon as ever the inflammation shall have subsided.

BRUISES AND CONTUSIONS.

These consist in a sudden violent compression of the soft parts, causing rupture of the small blood-vessels, and consequent effusion of blood beneath the skin. There is much swelling, and the part becomes dark-coloured, which, after a few days, changes to a dirty-green, then the skin around assumes all sorts of shades of colour before it recovers itself. A black eye is but a bruise, and a crushed finger is one of the worst kind. If a bruise be very violent, the structure of the soft parts may be much injured, and even a kind of abscess form with the decomposed blood.

Treatment.—When a bruise is severe and extensive, leeches should be applied, and the part well fomented and poulticed, so as to arrest swelling, and prevent the subsequent occurrence of inflammation. When the bruise is of slighter character, hot fomentations for half an hour or an hour will suffice to afford relief, and if hot vinegar or hot strong lead lotion be used, it will be still better. When all inflammation has subsided, the liniment F. 19 may be used three times a day, and the support of the bandage, when available, will serve to reduce the swelling, and give support to the part injured.

BURNS AND SCALDS.

If slight, and the skin remain unbroken, one of the following applications may be resorted to as most convenient, but whichever is used must be applied promptly, thoroughly, and perseveringly. The great thing is to protect the surface from the external air as speedily as possible. Turpentine on lint or rag is an excellent remedy. Flour is very serviceable for immediate use. Cotton wool in sheet is a simple and convenient application. Cold water, or even ice, will give much relief, if assiduously applied, but is not appropriate if the burn or scald be extensive. Brandy or vinegar may be resorted to if most available. When blisters are formed, they must not be disturbed in the first instance, nor indeed should they be opened for twenty-four hours. After twenty-four or forty-eight hours the ointment of acetate of lead is a good application.

When the burn is more severe and extensive, flour and cotton wool are still available in the first instance. An embrocation composed of a quarter of a pint each of linseed oil and lime water is a good application for an inflamed burn. If the vitality of the parts be much destroyed by the severity of the burn, stimulation is required at first, and the spirit of turpentine may be applied on pieces of lint, or equal parts of turpentine and linseed oil, or the resin ointment, softened with turpentine to the consistence of cream. These dressings should remain on twelve hours in the first instance, and if then the constitution have not rallied from the effects of the burn, they may be reapplied, and their use, especially that of the resin ointment and turpentine, may be persisted in as long as requisite. As soon as there is reaction, and the burn becomes painful, the stimulating applications may be changed for the embrocation of lime water, linseed oil, with the addition of two teaspoonfuls of the strong solution, or for equal parts of the lead and calamine ointments mixed together, or for the oxide of zinc ointment. Stimulating applications are often requisite to promote the healing of the burn, when equal parts of resin and calamine ointment may be used, and the addition of a small proportion of the nitric oxide of mercury ointment may be desirable. It will be necessary to dress severe burns once in twenty-four hours, and in so doing it is desirable to expose the injured surface to the air as little as possible, which may easily be done by removing and re-applying the dressings in small portions at a time. In the first attention to

eases of burns and scalds, the clothes must be removed with much care and gentleness, to avoid tearing off the skin, which must be disturbed as little as possible where only blistered.

All severe burns and scalds give a great shock to the system, and have a very lowering influence; it is, therefore, always requisite to give stimulants in the first instance, and sometimes pretty freely, such as wine or brandy-and-water. Opiates are also desirable, promoting reaction in the first place, and preventing excessive subsequent irritation. From twenty to forty drops of laudanum may be given to an adult, in a little brandy-and-water, in a case of bad burn, and, if requisite, should be repeated at intervals. Opiates may also be given to children, in proportion to their age, but with more caution. The first local and general management of cases of burns and scalds is of the highest consequence, inasmuch as in the secondary irritation and excitement inflammation of the internal organs is very apt to occur. Quietude, moderate diet, and very gentle aperient action, constitute generally all the after-treatment requisite, even for severe burns. A good deal of management is often necessary to effect the healing of extensive burns and scalds. Stimulating and soothing applications may be required by turns, and pressure carefully applied, by means of bandages, &c., is often of the greatest service. During the healing of a burn, we must be careful to keep the part in a natural position, as there is always a tendency for the wound to contract in healing, which often occasions much deformity and inconvenience. Burns and scalds of the trunk are far more dangerous than those of the extremities, and this not merely on account of the shock at the time, but also owing to the greater liability to subsequent mischief.

Burns with lime often occasion serious injury. To attempt to pick the lime off is useless, as it sticks fast to the surface which it is destroying. The best thing to be done in the first instance is to bathe the part affected with warm vinegar and water, by which the lime is acted on chemically, and rendered harmless; the part may then be dressed with the ointment of acetate of lead, and subsequently poultices of bread and milk may be used.

CHILBLAINS.

Chilblains are spots of inflammation occurring on the toes, fingers, and other parts of the extremities, and are attended with an intolerable itching and burning sensation. They depend on the feeble state of the distant parts of the circulation. Stimulating applications are most desirable for their treatment. An ounce of spirit of camphor, mixed with half an ounce of strong solution of lead, applied with a bit of lint, is a very useful application when they are much inflamed. The strong caustic solution F. 137 applied with a camel-hair brush, will be also found of service, or the tincture of iodine. Cold water, however, is the best application for chilblains, whether broken or unbroken; a doubled piece of rag, wet with spring water, should be kept applied, changing it every quarter of an hour. At bed-time a piece of dry bandage should be applied over the wet part, and it will often be found to afford the greatest imaginable comfort to young children. When chilblains are ulcerated, a little of the weaker citrine ointment, or of the dilute nitric oxide of mercury ointment, may be applied under the cold water dressing. To prevent chilblains the feet ought to be bathed with cold water every night, and rubbed dry and warm with a coarse towel. Exercise is also an excellent preventive.

CORN AND BUNIONS.

Corns are unnatural growths of the outer skin, which becomes thickened and elevated. They are often exceedingly tender and painful from the pressure which they exert on the more sensitive layer of the skin underneath. The great point of treatment is to remove the pressure which they occasion. This is best done by carefully paring them off, having previously well soaked them with warm water, and then carefully picking out the small, hard, horny root, which is implanted in the centre; this requires care and dexterity. The part must then be protected from pressure by several rings of corn plaster, gradually contracting in size, which are prepared by any druggist. Inflammation may take place at the root of a corn, and occasion the formation of matter; warm poultices and rest are then requisite.

Bunions consist of an inflammation and thickening of the inner skin, which, like a corn, originates in the pressure of a tight boot or shoe. The avoidance of that pressure constitutes the main part of the treatment. When not inflamed, they may be painted over with tincture of iodine, or the caustic solution F. 137, by the aid of a camel-hair brush.

EXCORIATIONS.

These are caused by friction removing the outer skin. They are apt to occur when the surface is tender, both with children and grown people, and may give rise to much irritation and inflammation, causing pain and inconvenience. The cerate of the acetate of lead, or the compound cerate of lead, are good applications, or what is still better, a lotion composed of two drachms solution of acetate of lead, one drachm oxide of zinc, and half a pint rose water, may be applied two or three times a day.

FILMS OR SPECKS IN THE EYE.

These often attend inflammation of the eye, or ophthalmia, and require to be treated accordingly. When, however, they remain subsequently as relics, and are chronic, they may often be removed by the persevering use of stimulating applications. An excellent one consists of one drachm iodide of potassium, dissolved in one ounce of soft water: a small quantity of this should be dropped into the eye, the lower lid being depressed, once or twice a day, with a quill, fashioned like a small spoon. Another is an ointment composed of one drachm calomel, intimately mixed with one ounce of spermaceti ointment; a portion, the size of a small pea, should be inserted once a day within the lower eyelid. These opaque spots are often inconvenient, from obscuring vision materially. They must be carefully distinguished from ulcers, which require very different treatment. (*See OPHTHALMIA.*)

FISTULA.

This term is commonly applied to a narrow false passage formed near the fundament, and running up by the side of the rectum or lower bowel. It is usually the result of an abscess forming in that locality, which, healing only partially, leaves a hollow ulcer, which secretes and discharges more or less matter. This generally opens externally, but it may pass into the bowel as well, or it may open into the bowel only; there may be several external openings. This disease usually originates in a deranged state of the bowels and liver, sometimes combined with constitutional debility. Our treatment, there-

fore, must consist in the regulation of the liver and bowels with alteratives and mild aperients. One of the pills F. 1 may be taken every night, or every other night, for a time, or, if more powerful action on the liver be necessary, the compound calomel pill may be substituted. The bowels should be kept open with confection of senna, castor oil, or such a medicine as F. 42. The regulation of the bowels with some mild alterative aperient, such as F. 39 or 40, alone will sometimes be productive of much benefit. The maintenance of free action of the bowels in these cases is most essential. When there is loss of appetite and weakness of digestion, medicines like F. 47 may be resorted to, and the chalybeate F. 166 may often be used with great advantage. As local treatment, a small quantity of a lotion composed of forty grains sulphate of zinc, to half a pint of pure water, may be injected up the fistula night and morning, or a strip of lint smeared with a little of red precipitate ointment, may be passed into the cavity with a probe. If, however, healing do not take place after a moderate lapse of time, and the health be in a good state, relief can only be derived from a surgical operation, which consists in laying the fistula open into the bowel, so that the ulcer may heal from the bottom.

FROST BITE.

Lengthened exposure to cold may render parts of the body numb and inanimate; the fingers, toes, lips, nose, and ears are especially apt to be affected, and they may even become mortified and dead, if the effect be very severe. The parts attacked with cold first become dark and painful, but sensation is soon lost, and unless immediate means of relief are resorted to, mortification must then soon follow. To restore the natural warmth of the part *gradually* must be our object in a case of severe frost-bite, and on no account must a considerable degree of heat be applied suddenly, as it would either kill the part outright or cause violent inflammation to result. Friction with snow or cold water merely, should be used until the circulation is somewhat restored, and then equal parts of brandy or some other spirit with cold water may be used until the restoration is completed. Chilblains are instances of slight frost-bites, followed with inflammation. Frost-bites are apt to leave troublesome sores, which are difficult to heal: the red precipitate ointment is the best application, and if much inflamed they should be poulticed.

The general influence of overpowering cold on a person is to cause a numb and torpid state. The respiration is oppressed and the circulation becomes more and more feeble; the disposition to sleep is almost irresistible, but if that sleep be permitted to any extent, it will soon be converted into insensibility and death. In treating a frozen person, the revival must be gradually effected, or the shock to the system will be too great: on this account the sufferer must on no account be brought into a warm room, nor any heat be applied to the surface. He should be undressed and covered with a blanket, and the body be rubbed with cold water or salt and water, especially over the chest and abdomen, and subsequently with spirit and water. When the limbs lose their stiffness, and there is some appearance of returning animation, the frozen person should be well dried and put to bed between blankets in a cool room. Friction of the surface should be continued, and a pint injection of warm water, with a couple of teaspoonfuls of brandy or one of spirit of camphor, should be thrown up into the bowels. He should then, when more revived, be brought into a warmer air, and mild warm stimulants, such as tea, wine and water, &c. may be administered. Thus we see that while in treating cases of burns and scalds with stimulants such as turpentine, we lower the temperature and excitement very gradually to the proper level, so in cases of frost-bite we raise the tem-

perature and apply stimulation no less slowly and cautiously up to the natural point. Thus one principle is adopted in either instance, but applied differently.

HÆMORRHAGE.

A wound is the common cause of external bleeding. If not very violent, pressure judiciously applied will readily control it, especially if the wounded part be over a bone, such as the skull or the shin. The edges of the wound must first be brought together with plaster, stitches, or such other means as may seem desirable, and then a pad of lint or linen of sufficient size may be bound over the part with a few turns of bandage sufficient to make firm but gentle pressure, both above and below the wound, as well as over its surface. This, however, may be insufficient when the bleeding comes from a good-sized vessel instead of merely a number of very minute ones. In such case the wound must be opened, and the coagulated blood sponged out, when either from the bottom or side of the wound a small jet of light-coloured blood will be found to proceed at intervals: this point shows where the mouth of a wounded artery is situated, and a tenaculum or pair of forceps should be dipped in as near as possible, so as to seize and draw up the spouting mouth with as little as possible of the surrounding structure. A strong thread or silk is then to be passed round below the point held, and firmly tied with a knot, when the blood will cease to flow if the vessel has been properly secured, and its white mouth will be seen gaping open. Plaster and bandage may then be applied, one thread of the ligature being suffered to hang out of the wound and the other being cut off close.

In what is termed an hæmorrhagic constitution, excessive bleeding may take place even from a wound of no great size and where no large vessel is injured. In addition to a compress and bandage in such cases, we may use cold water or ice, keeping them constantly applied, or a strong solution of alum may be resorted to, or, what is still better, some matico leaves moistened in warm water may be bound over the wound, and will usually be found most efficacious.

If it happen from any cause that a large artery is wounded, the sufferer will inevitably bleed to death unless help is at hand: this, however, can be afforded by an unprofessional person, if properly informed, so as to give time for surgical assistance to be procured in order to tie the bleeding vessel, which is usually a matter of some difficulty. When pressure on and into the wound is insufficient to control the hæmorrhage, too much time must not be wasted about it; the object must be to arrest the current of blood before it reaches the wounded part, and this can be done by pressure on the artery above the point of injury. This may best be effected by what is termed a tourniquet, which consists of a band, a pad, and a screw, but as this is rarely at hand, we must substitute other means.

If the wound be in or near the armpit, firm pressure of the thumb, or what is better, of the handle of a door-key, in a downward direction immediately behind the centre of the collar-bone, will command the artery of the arm where it first comes out of the chest. If the pressure be made with a door-key or any hard substance, two or three folds of a pocket handkerchief should be interposed between it and the skin.

If the wound be below the middle of the upper arm or in the fore arm, the large artery may be readily compressed as it runs along the inner side of the large muscle in front of the arm, either with the thumb or by binding a piece of cork firmly on it with broad tape. Another method by which the artery may be compressed is by passing a handkerchief folded cornerwise loosely round the limb as far above the wounded part as possible, and tying the ends securely; the rounded end of a short strong piece of stick is then to be passed just

through the circle of the handkerchief, and screwed round till it is tolerably tight; if this do not arrest the bleeding, it may then be readily effected by raising the long end of the piece of wood, and depressing the short one so as to bring the rounded point to bear on the artery where wished.

Bleeding from a wound on the hand may usually be arrested by firm pressure, or the wounded vessel may be tied; but if there be great difficulty about it, then the hæmorrhage may generally be restrained by hard pressure on the artery at the thumb side of the wrist, where it forms the pulse, and if that be insufficient we must also make pressure on the other side of the front of the wrist at about a similar distance from the edge, where another artery runs along. If there be great bleeding from a wound of the leg or thigh, especially high up, the great artery which supplies the blood to the limb may be compressed with the thumb just below the crease of the groin, and about its centre. The handle of a door-key may also be used for this purpose. If the bleeding be below the middle of the thigh, the stick and handkerchief may be used as already directed; the pressure being made somewhat below the groin, and rather more inwardly.

Bleeding from a vein, whether occasioned by a wound or other injury, may be readily arrested by pressure (*see* VARICOSE VEINS): it may easily be distinguished by the blood being dark-coloured and welling up, whereas arterial blood is light-coloured and spurts at intervals. Hæmorrhage from the internal parts is treated of under Medical Diseases.

INJURIES OF THE HEAD.

Wounds and contusions are of more serious moment when they occur to the scalp than elsewhere, inasmuch as they are more apt to be followed by erysipelas, by inflammation and the formation of matter, and even the brain or its membranous coverings may become diseased in consequence; therefore, however slight, they should not be neglected. Stitches must not be used if they can be avoided, but merely strips of plaster should be applied, so as not to close the lower angle of the wound, and over them a wet compress and bandage. When the wound is ragged and contused, cold water dressing alone is most desirable, and if much swelling and pain occur, we should then apply warm poultices.

CONCUSSION OF THE BRAIN.—From a fall or blow on the head, or even a violent shock of the entire body, a person becomes what is called stunned: this may be a mere temporary effect, quickly passing off, and leaving no mischief behind it, beyond, perhaps, some headache, which quiet and a little aperient medicine will soon remove. When, however, the concussion is more violent, the person does not thus come to himself, but remains motionless and insensible for a shorter or longer space of time. If the injury be severe, the pulse will be weak, the breathing slow and irregular, the surface of the body cold, and the face pale and ghastly. If death do not ensue, then after a time the patient begins to move his limbs, can be roused to give answer, retches or vomits, and then his senses gradually return, but he remains giddy, confused, and sleepy for some time. Sickness may always be understood to indicate revival. The state of concussion may have more or less duration, hours, or even days; it may also fluctuate, and even relapse take place. For days there may only be a state of partial consciousness, and the patient may almost resemble a somnambulist. The injury may leave the person in a very infirm state of body and mind.

Treatment.—During the immediate state of severe concussion, little can be done. The patient should be put to bed, with the head rather low, friction should be used to the chest and abdomen, warmth should be applied to the feet,

the temples may be bathed with vinegar and water, smelling salts may be applied to the nose, and if requisite, mustard poultices may be put to the calves of the legs and the pit of the stomach. As soon as he is able to swallow, a little sal-volatile and water, or very weak brandy and water, may be taken, but much stimulus must not be given for fear of causing too much subsequent excitement. The stage of reaction now comes on: the surface becomes warm; the pulse rises; the face flushes, and pain in the head is complained of, but there may still be a state of confusion, giddiness, and heaviness, and also sickness may continue. Our object must now be to retain the reaction within due limits, and prevent its passing into a state of inflammation. For this end we shall usually have to resort to bleeding; from ten to twenty ounces of blood may be taken from the arm, and this must be repeated if necessary; an active aperient should then be administered, such as from three to five grains of calomel, followed within an hour or two by a black draught: the head should be shaved, and cold water or ice should be kept applied, and it should also be kept well raised. The diet should be as low as possible, and the utmost quietude should be enforced. For further treatment see INFLAMMATION OF THE BRAIN. It must be well remembered that any active treatment in the early stage of severe concussion of the brain will be exceedingly mischievous, and bleeding may then kill the patient; but when reaction comes on, then the free abstraction of blood without delay will usually be essentially requisite. When the reaction is slow and slight, the treatment must, of course, be of milder character. Leeches or cupping may suffice with freely acting on the bowels, or the abstraction of blood may not even be at all required. Counter-irritation, alterative medicines, or even tonic treatment may be necessary, according to circumstances, for the removal of the effects left by a severe attack of concussion of the brain.

INTERNAL INJURY.

This may arise from a blow, a fall, or any violent pressure. A blow on any part of the trunk may cause serious mischief, and one on the pit of the stomach may occasion immediate death from mere concussion. When a severe shock is received, it may cause a state of sinking and lowness, which may pass off without any further injury or may be succeeded by inflammation. It may occasion some internal bruise, laceration, or rupture, which will be attended with the greatest danger, and in which case, though the depression may be extreme, yet, at the same time, there will generally be intense pain. After the receipt of such an injury the patient ought to be kept perfectly quiet; some slight stimulus should be given to restore him, and the part which is painful should be well fomented. As soon as he is somewhat revived, the skin is recovering its temperature, the pulse has begun to rise, and the pain is persisting or increasing, which may not be for some hours, he should then be freely bled, so as to produce faintness, and thirty or forty drops of tincture of opium may then be given, which may be repeated, if the pain continue, in somewhat smaller quantity, at intervals of three or four hours, until it affords relief. No food should be taken beyond the smallest possible quantity of light fluid nourishment, and neither purgative by the mouth nor purgative injection should be given in such a case for three or four days, especially if either the stomach or bowels appear to be injured. When pain and fever indicate the occurrence of inflammation, further bleeding from the arm may be required, and leeches may be applied over the affected part. The continued use of fomentations and hot poultices will be desirable, and a pill, containing one grain of calomel and the same of opium, should be given every four hours, until the symptoms abate.

When there is a wound of the belly, it must be closed with long strips of

adhesive plaster, and if extensive, the edges should be brought together with one or more stitches, a wet compress and bandage being also used, as directed in other cases of wounds. Great care must previously be taken to replace any intestine that may protrude, by pressing it within the cavity of the abdomen with the finger; but if the intestine be wounded, this must not be done to too great an extent; its aperture must then be suffered to remain in contact with the external opening, which, at that point, must not be closed with either plaster or stitches, and the compress and bandage must be but lightly applied. The treatment already mentioned must be rigidly carried out. The abstinence from food for some days must be almost complete: it should consist only of a little thin arrowroot and water, and no attempt must be made to move the bowels, unless they act of their own accord, for at least ten days. The result of such cases is rarely favourable. In all wounds of the belly the patient should be placed on his back, with his shoulders raised, and his knees drawn up, so as to relax the parts adjacent to the seat of injury as much as possible. By that position, also, the return of any protruded intestine will be much facilitated; it is better retained within the cavity of the abdomen, and is less liable to be disturbed. Gunshot wounds of the abdomen must be treated on the same principles as the other injuries; but, of course, there can be no attempt made to close the wound with plaster and stitches. Cold water dressing may be applied in the first instance, and when dead substance has to come away, and matter forms, then warm poultices should be resorted to.

Wounds of the chest are attended with the greatest danger. A simple opening into its cavity admits the air between the wall of the chest and the lung, where it ought not to be. Thus, when the chest dilates, the lung no longer expands at the same time, but remains collapsed and motionless, and thus becomes completely useless, at any rate for a time. Therefore, it is of the greatest consequence to close a wound of the chest immediately, which may be done as with other wounds, and also to get it to heal as speedily as possible. Violent bleeding is apt to be occasioned by a wound of the chest extending into the lungs, of which the bloodvessels are so large and abundant, and the blood may be thrown up by the mouth or flow inwardly into the cavity of the chest as well as passing from the external opening, which, indeed, may not bleed at all. In either case, however, the wound must still be closed, and the patient should be placed on the injured side, by which the motion thereof is partially prevented, and there is less liability to the disturbance of the injured part. Perfect quietude must be observed, and he should on no account be suffered to speak. Beyond a little water to drink, and the free admission of cold air, no restorative whatever should be made use of. Thirty or forty drops of laudanum may be given at the time. If blood continue to come largely from the mouth, bleeding from the arm will sometimes serve to arrest the flow; if, however, it be only expectorated in moderation, a draught, consisting of twenty drops of dilute sulphuric acid and ten drops of laudanum in half a wineglassful of water or infusion of roses, may be taken every four hours, and if this do not answer the purpose, the mixture F. 57 may be resorted to. The diet must be kept very low, and the bowels must not be acted on for three or four days, and then very gently. If inflammatory symptoms arise, they must be counteracted by abstraction of blood, and digitalis will be an useful aid in keeping down the force of the circulation.

When the injury of the chest is caused by a gunshot wound, there is less immediate danger of hæmorrhage, but more of inflammation; the hæmorrhage is more apt to come on at a later period, when the sloughy matter which must form from the bruising and laceration, separates from the injured part. We have, therefore, more especially to keep down all inflammatory action in the

first instance by strict antiphlogistic treatment, and to be on the watch for the occurrence of hæmorrhage at a later period. Thus our remedies will be the same as in other kinds of wounds of the chest and lungs, but differently adapted, in some measure, as the circumstances arise. When a gunshot wound begins to be more tender, to look angry and pulsy, with an inclination to form matter, then warm poultices must be kept applied.

INFLAMMATION OF JOINTS.

This usually occurs in consequence of injury, and when it affects any of the larger joints will, if severe, be of serious consequence, and even dangerous. It is usually indicated by heat and swelling, with tenderness and pain in the neighbourhood of the part, and there may be redness. The pain may be dull and aching, or sharp and acute, but its severity is sure to be greatly increased by any motion or by pressure on the interior of the joint caused by its position. There may be a feverish state of system.

Treatment.—The bowels should be freely acted on, and saline and antimonial medicines should be given, if requisite. Anodynes may be necessary. From ten to twenty leeches should be applied near the part which is most painful, and hot fomentations and poultices may be used for some time subsequently; a fresh application of leeches may be required, or, if some amount of relief has been afforded, we may then resort to the light application of a bandage, which should be kept wet with lotion, such as F. 123, 124. When the affection has become more chronic, the application of blisters, or of the liniment of mercury, may be desirable, but the application of the bandage must be continued, as moderate pressure is of great utility. In all acute and most of the chronic diseases of joints, perfect rest and immobility are of the greatest consequence, favouring the cure greatly by negating one of the chief causes of irritation and of the maintenance of the diseased action—viz., friction of the diseased surface.

HOUSEMAID'S KNEE is a common form of inflammation of the joint, occasioned by undue pressure from kneeling; it is generally superficial, and confined to the neighbourhood of the knee-cap, but it may extend deeper, and be of more serious moment. The treatment should be that which has already been directed.

LODGMET OF FOREIGN BODIES IN EAR, EYE, NOSE, OR THROAT.

IN THE EAR.—Substances are sometimes pushed into children's ears in play. To effect the extraction as speedily as possible is very desirable, for if it be a seed, such as a pea or bean, or other soft substance, it swells as it becomes moist, and so renders the extraction more difficult. Foreign bodies may, however, remain a considerable length of time without causing much inconvenience. Blowing the nose strongly will sometimes dislodge the offender. A fine probe, somewhat curved at one end, is generally the best instrument with which we can remove any substance, or if it be of irregular shape, or near the external opening, blunt or pointed forceps may serve our purpose. Unless it is distinctly perceptible that there is something lodged in the ear, poking it about with bodkin, probe, or anything else, is most objectionable, and may do serious mischief. If the foreign body in the ear be of very irregular shape, so that water can pass by it, then it may sometimes be dislodged by forcible syringing with warm water, holding the mouth of the instrument a little distance from the ear.

Insects sometimes find their way into the ear. The best method of proceeding in such cases is to fill the cavity with oil, which will not fail to destroy the insect, and he may then be expelled by syringing.

When the tube of the ear becomes loaded with hardened wax, it will sometimes occasion much inconvenience and pain, and often deafness. To remedy this, our first object must be the softening of the wax, which may be effected

by dropping in a little sweet oil, and retaining it with a little wool or cotton. After the lapse of a few hours, the ear can be syringed out with warm soap and water, when the wax will gradually come out.

IN THE NOSE.—A substance may become fixed in the nose as in the ears. It can often be dislodged by blowing the nose violently, and at the same time gradually closing the free nostril by the pressure of the finger. The best instrument with which to make any further attempt at extraction is a curved probe, but if the foreign body be not clearly seen, we must beware of using any violence, and not attempt to push it back into the throat, for it were better left in.

IN THE EYE.—Substances of various kinds, such as flies, road sand, particles of metal or stone, are apt to get into the eye—that is, between the eyelid and the eyeball. They generally occasion such pain and inconvenience that the sufferer is very anxious to get rid of the intruder. When a person feels that he has got something in the eye, he closes the lids involuntarily and spasmodically; then tears flow, in consequence of the irritation, and the foreign body, if soft especially, may become entangled in the eyelash, or float into the corner of the eye, whence it is easily got rid of. This effect may be promoted by keeping the eyelid closed, and passing the finger gently from the outer to the inner corner of the upper lid. It may, however, be otherwise, and the substance remain within the upper or the lower eyelid, and if at all fixed, the patient can generally point out the locality. Our simplest plan is then to examine the interior of the lids by everting them. The lower eyelid may be readily drawn down, so as to expose its inner surface and the lower part of the eyeball completely. To look at the inside of the upper lid and the adjacent surface of the eyeball requires somewhat more dexterity. The lid must be turned inside out, which may be effected by taking firm hold of the eyelashes with the finger and thumb of the left hand, while with the other the blunt end of a bodkin or knitting needle is to be laid flat on the centre of the lid, which being then drawn downwards and forwards, can be readily turned inside out by raising the lashes towards the eyebrow. If the substance be loose, it can then be wiped off with the end of a silk pocket handkerchief, or, when it has become more firmly fixed, we may use a bodkin or knitting needle, guarded with the same.

Lime will sometimes get into the eye, and the accident is attended with much pain and danger to the eyesight. It burns the coats of the eye, and may either destroy the transparency thereof, or occasion such injury that the eye bursts, and the fluid parts being discharged, it shrivels up, becoming utterly useless. To remedy the evil in question, we must lose no time in removing the lime as completely as possible with the web of a feather, wet with weak warm vinegar and water, which must also be freely applied to the eyeball itself, and the inside of the lids, with a bit of soft muslin, or by gentle syringing. When the lime is got rid of as completely as possible, the eye should be bathed with warm water, and then, if a little sweet oil is dropped in, it will be found to afford much comfort. Severe inflammation may follow, which must be treated as ordinary ophthalmia.

Small portions of metal, especially iron, and other substances, are very apt to become fixed on or in the cornea, or watch-glass of the eye, and occasion much suffering and inconvenience, often inducing much violent inflammation. They are sometimes so firmly entangled in the outer membrane that their removal is attended with much difficulty, and they may be so minute as not readily to be discoverable. The extraction of these foreign bodies requires the aid of a surgeon, but if it be not available, it will be desirable that an effort to afford relief

should be made by any one with a quick and steady hand. The patient should be seated, and rest his head against the breast of the operator, who, with the finger and thumb of the left hand, separates the eyelids sufficiently, and, by a due amount of steady pressure, fixes the eyeball, so as to prevent its rolling about. He is then to take a bodkin or probe, covered with the end of a silk handkerchief, and by the application of the point, endeavour to remove the substance, or if it project from the surface, it may be laid hold of by the aid of a pair of forceps. The foreign body may, however, be so completely imbedded, that it may require the use of the point of a darning-needle or a lancet to extract it, in fact to dig it out, which requires much care and patience. A magnet has been used for the removal of particles of iron from the eye, and sometimes successfully; it is always deserving a trial. When the substance is removed, a drop or two of sweet oil should be applied within the lid, and will be found to allay irritation. Fomentation with hot water is also desirable, and we must guard against the occurrence of inflammation. When the particle of metal is small, and does not occasion much inconvenience, it will be better left alone than unskilfully meddled with.

IN THE THROAT.—Foreign bodies may be lodged in the swallow, and this is apt to occur in eating quickly and carelessly; a large piece of meat, for example, may stick in the gullet. It may be forced down by repeated efforts of swallowing, or by the impulse of draughts of water or some other fluid. When this cannot be effected, and the throat is examined, the foreign body is sometimes found within reach, and may be extracted even with the fingers, or otherwise it may require the use of a probang (a long slender stick of whalebone with a small piece of sponge firmly attached to one end), in order to push it down into the stomach. When any person chokes, especially a child, from any substance lodging in the throat, the fingers should be immediately passed down, so to endeavour to remove it without delay, for it may be reached even if out of sight. Small pointed bones, and especially those of fish, are very apt to be carelessly swallowed. The same is the case with pins when held in the mouth; they may pass into the stomach without occasioning any inconvenience beyond scratching the surface of the gullet, which, however, often leaves the sensation of something remaining stationary. But, on the other hand, the points may run into some part of the interior of the throat, and the foreign body so remain fixed. If the throat be carefully examined, it will often be discovered, and may be removed with the fingers, or by the aid of a long pair of forceps. If, however, it be lower down, and out of reach, the dislodgment may sometimes be effected by swallowing as much coarsely chewed bread at a time as possible, and impelling it down with a draught of water; this may fail, and then we have the probang to resort to, but unless the symptoms are very urgent, it is questionable whether its use be desirable, if the foreign body, like a pin, be very sharp-pointed. If a person be choked, as we have described, the fits of coughing and the efforts at vomiting are often very ineffectual, and will sometimes be efficient in dislodging the offending substance.

Choking may also result in any food or foreign substance passing down into the larynx or windpipe, when it interferes with respiration, and tends to cause suffocation, of which we shall speak elsewhere.

NAIL, INGROWN.

This complaint always depends on undue pressure caused by shoes or boots. It usually affects the nail of the great toe, which becomes narrow and bent, so that the sides, especially at the corners, are forced down into the flesh. For

some time this may only cause slight uneasiness, but the pressed edge at length becomes tender and inflamed: it is then rendered sore and ulcerates, and a little discharge appears at the edge of the nail. The person now probably endeavours to cut and tear away the nail, but if not done properly, the sharp corner, being soft, separates, and remains behind like a small spike, making matters worse, and causing much irritation and lameness. A little mass of proud flesh often forms, rising up and overlapping the nail.

The treatment consists in cutting the nail well out, and then relieving the pressure between the nail and the overlapping flesh by the careful insertion of a small portion of lint, to be changed night and morning. If the proud flesh be troublesome, it may be touched each night with lunar caustic. There is sometimes so much inflammation and gathering that the toe requires poulticing. As long as boots and shoes of too small a size are worn, whether too short or too narrow, the foolish wearer may expect the return of his plague.

OPHTHALMIA, OR INFLAMMATION OF THE EYE.

Acute inflammation of the eye may be occasioned by exposure to cold, external injury, or the lodgment of any foreign body. The symptoms are acute pain in the eyeball, extending to the forehead, a sensation of the presence of gravel under the lid, redness and vascularity of the surface, much lachrymation or discharge of tears, great sensibility to light, and the slightest motion of the eyeball causes additional pain. If the inflammation chiefly affects the surface of the eye, which is most commonly the case, it may lead to the formation of small abscesses or ulcers, or it may cause a deposit of lymph, which may render the anterior part of the eye thickened and obscured, and the same may take place when the internal structures are also attacked; but then it is more dangerous, and will more surely lead to loss of vision. There are different kinds of ophthalmia, and their distinction and recognition requires much practice and tact. When the entire eye is affected, the symptoms are as above, but the pain is exceedingly severe and deep-seated, and the eyeball is altogether much swelled. When the external membrane of the eye is affected, the surface presents one uniform bright red colour, which is caused by a network of enlarged superficial vessels; the pain is of smarting, aching character, and is especially accompanied with the sensation of the presence of gravel; the surface is tumid, and there may be more or less secretion of matter. This last symptom gives a special character to the disease, and when the formation of matter takes place abundantly, it is called purulent ophthalmia; the Egyptian ophthalmia was of this nature, and we have it occurring occasionally of a specific and contagious character, especially affecting infants soon after birth, when there is much risk of loss of sight. When the opaque fibrous tunic of the eye is affected it is often connected with rheumatism; the vascularity presents a purplish hue, and the pain is dull and aching. When the cornea, or watch-glass, of the eye becomes inflamed, it is usually owing to local injury, or connected with a scrofulous habit of body. There is usually great sensibility to light, and the inflamed bloodvessels can be traced into the substance of the cornea. When the iris, or muscular membrane of the eye is affected, a pink zone forms round the outer margin of the cornea. By comparison with the other eye, the iris is seen to alter in colour; it gradually becomes less moveable under the stimulus of light, and becomes irregular in shape. The inflammation may not appear very violent, nor the pain be very great, but this affection is very apt to occasion loss of sight, and requires the most prompt and active treatment.

Treatment.—All the above varieties of ophthalmia, when active and violent, require the free abstraction of blood; it is, however, rarely necessary to take it

from the arm, but cupping or leeches will generally suffice; from six to twelve ounces of blood may be taken from the temple by cupping, or from eight to fifteen leeches may be applied, and either may be repeated if necessary. Hot poppy or water fomentation, or bread poultices, should be applied. The powder F. 4 should be given, and be followed up with a sharp aperient, such as F. 44 or 68, and afterwards some antimonial medicine may be given, such as F. 76. When the first violence of the inflammation is passed, lead lotion may be substituted for warm applications, and if necessary, a blister may be applied to the temple. If there is much pain, an anodyne may be given at bedtime—F. 16, for example. The light must always be carefully excluded while the inflammation is violent. Specific inflammations of the eye—viz., those which are rheumatic, or purulent, as above alluded to, require special treatment, in addition to moderate depletion. The first should be treated with colchicum, and F. 113 may be made use of. The second kind of specific ophthalmia requires free depletion in the adult, and the use of active aperients. The eye should be kept free from matter by bathing and sponging with warm water; the caustic drops, of medium strength, F. 137, should be applied within the lid once a day, and the lotion F. 59 can be used occasionally. With an infant, no depletion is required; the bowels may be acted on with a little castor oil; the nitrate of silver drops and the alum lotion may be used as in the case of an adult, and, above all things, the eye must be kept as free from matter as possible, and it must be well syringed away before applying the drops. No time must be lost in commencing the treatment, for the eyes are soon irrecoverably lost. The nurse should carefully beware of allowing any of the matter to come in contact with her own eye, as the disease may prove contagious.

CHRONIC INFLAMMATION OF THE EYE.—This is very different from the acute form of the disease. It comes on slowly, or, at any rate, without any violent symptoms, and may be the relic of an acute attack. It is indolent in its character, depends on a relaxed and debilitated state of the vessels, and there is often much constitutional weakness connected with it, especially in scrofulous subjects. Thus it requires no abstraction of blood or lowering means, and, as a general rule, stimulating treatment is desirable.

Treatment.—Astringent lotions are often useful, and may be applied every few hours. They are made by dissolving twenty or thirty grains of alum or sulphate of zinc in half a pint of rose or elder-flower water, or half the proportion of both those substances combined. When there is much irritability, the warm or cold lead lotion is preferable, and a couple of teaspoonfuls of wine of opium added to the half-pint. When the eye is in a very relaxed state, the vessels remaining enlarged and full of blood, the introduction, night and morning, of one drop of the wine of opium within the lids will do much good; when the surface of the eye is ulcerated, the weak solution of the nitrate of silver, F. 137, should be applied at bed-time in a similar manner, and in the scrofulous cases we meet with among children, when the eye is very vascular and irritable, this mode of treatment will do much good. The drops may be readily applied with a quill cut into the shape of a small spoon, by gently depressing the lower lid. Sometimes, in lieu of lotion or drops, the use of the following ointment is preferable, especially when the edges or lining membrane of the lids are affected—viz., the weak citrine ointment, or that of the nitric oxide of mercury diluted with four or five times its weight of spermaceti ointment. Constitutional treatment is usually of importance, and the general health requires improvement. Pure air and plenty of exercise are often required, and also a regulated diet. Mild aperients, such as the compound rhubarb pill, the compound colocynth pill (*see* ALOES), or for children F. 49, will be desirable. Alteratives may be requisite, such as F. 13, taken every night at

bed-time, or F. 5. Tonics are often necessary, such as the sesquioxide of iron, or the syrup of the iodide of iron. F. 156, 158, 160, or 165, may be more especially appropriate to the state of the system, especially in adults.

POLYPUS.

This disease consists in the formation of a soft, fleshy, or gelatinous tumour, not very vascular or sensitive. It is an unnatural growth from a mucous membrane, and is most apt to originate in the nose and in the womb. The cure can only be effected by tearing or twisting the tumour away, or by applying a ligature round its neck, which is always smaller and more slender than the body. The operation by ligature destroys the vitality of the tumour by strangulating it, and this method of treatment avoids any chance of bleeding.

SPRAINS, OR STRAINS,

Are similar to bruises, but the mischief is occasioned by an undue stretching of the part affected, whether muscular or tendinous in its structure. If the sprain occasion much tearing of fibre, especially in the neighbourhood of a joint, it may cause great pain and inconvenience, and even be of serious importance.

Treatment, in the first instance, must be directed to allay the irritation and inflammation. Hot fomentations and bran poultices are most efficient for the purpose, but if there be much inflammation, leeches must be freely and promptly applied. When the warmth and moisture no longer seem to be doing good, the light application of a bandage, kept constantly wet with the lotion F. 123, or one formed by the addition of half an ounce of tincture of arnica to half a pint of cold spring water, will be found advantageous, or if these be not available, cold water or vinegar and water can be used. Subsequently, when the inflammation has become quiescent, though swelling and weakness remain, we may use the liniment F. 19, or the lotion F. 138, and support the injured part well with a dry bandage, or even more firmly with soap plaster, so as to promote healing.

STYE.

This consists in a small boil or abscess formed in one of the small glands of the edge of the eyelid. It is often exceedingly painful, and surrounded by much inflammation. Fomenting with hot water, and the application of warm bread and milk poultices, is the best local treatment in the first instance. As soon as a white head forms it should be pricked with a needle, and if the inflammation and surrounding hardness do not speedily disappear, the application of a little citrine ointment twice a day (not letting it get into the eye) will be desirable. A styte often denotes cold or a little stomach derangement, in which case a mild aperient will be desirable.

TUMOURS.

By this term we designate all swellings possessing more or less solidity. Speaking in general terms, they may consist of enlargement of natural structures more or less modified, such as fatty tumours, or of new growths, such as cancerous tumours. They are all living bodies, and supplied with bloodvessels to a greater or less extent, but are incapable of any independent existence. Tumours may be considered as simple or malignant: the first merely inconvenient by their size and position, and do not kill except by mechanical interference with vital parts; such are the fatty, fleshy, and encysted tumours: the

second kill by the constitutional derangement which naturally accompanies them, and also by the irritation and exhaustion which the local mischief reflects on the general system; such are the cancerous and fungous tumours.

Treatment.—Medical means will sometimes prove successful in the cure. Iodine may be taken internally in the form of tincture, or the iodide of potassium as in F. 7; or they may be applied externally by painting the surface daily with the tincture or rubbing in the ointment F. 142. Mild mercurials may be useful, such as the compound calomel pill each night, or the alterative solution F. 5. The solution of potash is also a good remedy. Where, however, the disease has gone to any extent, the knife of the surgeon generally affords the only available means of cure; and when the tumour is simple and innocent, success will mostly attend the removal; but if it be a malignant growth, the result will be very uncertain, for if the entire system be tainted, the disease will speedily reappear.

ULCERATION.

We have referred to this morbid process under the head of inflammation, from which it commonly results. It consists in the removal of some part of the natural substance of the external or internal surface of the body by absorption, and is attended with secretion of matter or some kind of discharge. As a surgical complaint it occurs externally, and may arise of itself or be the consequence of any injury, such as a contusion or a burn. The legs are very apt to become affected. Ulcers are of various kinds, as to appearance and symptoms, and accordingly require different treatment: their characters often change from one form to another.

HEALTHY ULCERS present a tolerably even surface, composed of little red eminences, which are termed granulations: it secretes pale creamy matter, and there are white smooth delicate-looking edges where the new skin is beginning to form. Here the process of healing is going on gradually, and all that is requisite is to avoid irritation, and to protect the sore from the access of the external air: a little pressure and some simple application are alone necessary for the cure. If the ulcer be of small extent, strips of soap or adhesive plaster may be applied: if it be of larger dimensions, simple ointment or cerate may be used, such as that of spermaceti, calamine, or lead, spread on lint, over which a bandage may be applied, or, if inconvenient, strips of adhesive plaster. If the granulations be too abundant, and rise too high, which constitutes what is commonly called *proud flesh*, they may be rubbed over with lunar caustic, and the part should be bandaged somewhat more tightly.

INFLAMED ULCERS are attended with pain and much surrounding redness. The discharge is deficient or thin and bloody; there is often a thick fur on the surface, and the edges are thickened and irregular. Fomentation with hot water or decoction of poppy-heads and warm bread and water poultices are the best applications. Aperient and alterative medicines are desirable. Five grains compound calomel pill every night or every other night, followed by F. 44 or 68 in the morning, may be repeated two or three times. Or the pills F. 36, 37, 38, 66, according to the nature of the case, may be taken every night or two. Rest is desirable, and the diet should be lowered. Inflamed as well as indolent and irritable ulcers, when occurring in the legs, are very often connected with an enlarged state of veins, and consequently increased pressure of the blood, when it is essential to afford support by bandage or elastic stocking as soon as it can be borne.

IRRITABLE ULCERS often have somewhat the inflamed character. They are

excessively tender and painful; the surface is uneven; the discharge is thin; and the edges are irregular. The occasional application of cold poultices is very desirable, and two or three folds of lint kept constantly wet with cold water, and retained in place with a light bandage, will often agree well. Nitric acid lotion, made by adding thirty or forty drops of the acid to a pint of water, used once or twice a day, or the caustic solution F. 137, applied with a feather, will often assist materially in making the sore take on a more healthy action. Ointments seldom agree, but sometimes we may make use of that of spermaceti in addition to the other means. Constitutional treatment is always more or less desirable. Where there is much general irritation, calomel and opium, one grain of each, may be given every night at bed-time, or from five to eight of Dover's powder. Aperients may be desirable, F. 68, 70, or such as are more stomachic, as F. 47, 106. Tonics even may be required.

INDOLENT ULCERS are those in which there is no tendency to heal. The surface is glazy and irregular, and does not secrete; the edges are raised, hardened, and everted. There is no energy in the vessels of the part, and often a weak and languid state of constitution. Stimulating applications, such as the red precipitate ointment, the black wash, or nitric acid lotion, made with sixty or eighty drops of the acid to a pint of water, should be used twice a day, or the sulphate of copper may be lightly applied once a day. If the leg be the part affected, it should be kept well bandaged. When some progress in healing has been made, the limb may be encased from the toes to the knee by evenly-applied strips of soap plaster with the best effect. Aperients and tonics may often be required, according to the state of the constitution. F. 129, 166 will often be found serviceable medicine in the indolent ulcers of old people.

Scrofulous sores combine the characters of indolent and irritable ulcers, and are very difficult to heal. The constitutional treatment as well as the local management has been fully discussed under the head of scrofula.

SLOUGHING AND GANGRENOUS ULCERS occur generally in those whose constitutional powers are lowered by intemperance or debility, and may be occasioned by unwholesome atmosphere. The surface of such sores is dark and free from any discharge; the edges are livid; there is low fever, and often much irritation. The disease usually spreads rapidly, and when gangrenous ulceration presents itself in crowded hospital wards it is apt to prove infectious. The local treatment consists in the application of warm poultices of bread and water or linseed meal: the use of the strong nitric acid lotion, or of the diluted solution of chloride of zinc (Burnett's disinfecting solution), which may be applied twice a day. Opium should be given in pretty full doses at intervals, or at bed-time only, as required. If there be much debility, bark or quinine must be given, as per F. 159, 161, 162, for example: the bowels must be kept freely relieved with such medicines as F. 44, 68, 69, and finally the patient must be kept well supported with nourishment and stimulus of such kind as appears most desirable.

SINUOUS ULCERS are those which have one or more small openings, and occupy long narrow false passages. A fistula is a sinuous ulcer, running up by the side of the lower bowel or by the side of the urethra, and generally opening into those parts. Sinuous ulcers may, however, occur in any other locality, especially as consequences of acute or chronic abscesses. Stimulating injections, or other applications, such as a slip of lint smeared with red precipitate ointment and passed in with a probe, will sometimes heal them, but if that do not speedily succeed, the best mode of treating them when they are sufficiently superficial is to lay them open by slitting them up with a knife on a director, so as to convert them into simple ulcers, which must be kept well open by inserting

red precipitate ointment on lint into the wound, so as to get them to heal from the bottom.

Ulcers sometimes occur in the mouth and nose, which, though small and apparently insignificant, often occasion much inconvenience and are difficult to heal. Touching them daily with lunar caustic is the best local treatment, but they are generally connected with some constitutional derangement, which mainly requires attention. Mild alterative and aperient medicines may be given in the first instance, and subsequently tonics. The same may be said of many small ulcers occurring on the face or other parts of the body: occasionally when neglected they may assume a malignant character.

VEINS, ENLARGED OR VARICOSE.

These are most apt to occur in the legs, extending up the thigh. The veins are probably originally weak, especially the valves, which we have described in speaking of their anatomy. Too much standing is a common cause of these veins becoming over distended, also any obstruction of the veins above the limb, which may be occasioned by a torpid state of the bowels or by pregnancy: thus the constant pressure of the long columns of blood causes the valves to give way, and thereby the veins are rendered irregularly dilated. As the veins thus become diseased, the hindrance to the return of the blood increases and constitutes a common cause for the formation of ulcers in the legs, either over the veins or in their immediate neighbourhood. When the varicose veins are very tumid with blood they may suddenly give way, and much blood be lost.

Treatment.—Varicose veins cannot be cured under ordinary circumstances if they be much diseased, and our object must be to prevent their getting worse. Support and pressure are our chief means, and can be applied in the shape of bandages and laced or elastic stockings, as most convenient. Constipation must not be allowed to exist. If the veins become inflamed and tender, rest in the recumbent position, so as to facilitate the return of the blood, and the constant application of cold water, lead lotion, or F. 124 must be resorted to.

If a vein burst, the bleeding may be readily arrested by laying the person down flat on the ground or on a bed; all covering and clotted blood should be removed from the part; and the finger placed over the small opening from which the blood proceeds. A small firm pad of lint or linen may then be placed over the opening, and retained in its place by three or four strips of plaster fixed across it; over this the leg should be bandaged from the foot to the knee, and the patient should be kept in bed for a day or two. The pad should not be removed for some days, and must previously be well soaked with warm water.

WARTS

Consist of a number of small stalks or vegetations, which spring up closely, side by side, having their roots in the true skin. The application of acrid or corrosive substances serves to remove them. The juice of the spurge or that of thecelandine may be rubbed on them twice a day. Strong pyroligneous or acetic acid may be applied with a camel-hair brush, or, what is still more efficient, strong nitric acid may be used once a day. This last requires great care; a very small portion only should be applied with a silver probe or small piece of wood, the surface surrounding the wart being well protected with adhesive plaster. Superficial cancer has the appearance of a warty growth in the first instance. The common carbonate of magnesia, taken in small teaspoonful doses twice a day, is said to have a powerful constitutional influence in destroying warts when very numerous.

WHITLOW.

This is a small abscess, forming generally close to the edge of the nail, under the strong cellular membrane, or web, which extends from them round the finger. A whitlow may form in front of the finger, but they generally break at the edge or under the nail. The disease may be occasioned by any irritation, but a peculiar state of constitution seems to have something to do with their occasion. Whitlows are very painful and tedious, in consequence of the way in which the matter is confined.

The treatment consists in keeping the part well poulticed, and giving the matter vent as soon as possible, by removing the skin when it blisters up, or by making such an opening as is requisite with the point of a lancet, and if the inflammation seems deep-seated, we must take care to make the opening sufficient. The fever and irritation which accompanies a whitlow often makes an aperient desirable—five grains of blue pill and the draught F. 68; where the pain is excessive, an anodyne may even be desirable.

WOUNDS.

AN INCISED WOUND is a clean cut, which may be made by any sharp instrument, and if not very deep, or accompanied with much bleeding, is rarely of consequence. The chief object which is desirable is to bring the edges of the wound as closely together as possible, so as to obtain direct and immediate union. This we can effect with long slips of adhesive plaster, soap plaster, or common court plaster, laid across, with small intervals between them. If no plaster be at hand, strips of linen, smeared with white of egg, will answer the same purpose. If the wound be extensive, a fold or two of lint or linen rag may be laid over the plaster, and bound on with a few turns of bandage. If the part swell, the bandage can be loosened in the course of twenty-four hours, but, if possible, the plaster should remain undisturbed for three or four days, so as to obtain what is technically termed union by first intention. The position of the injured part is important; it should be as easy and relaxed as possible, so as to avoid any strain or disturbance. The part may inflame, when it will throb, and become very tender. In such case the plaster must be removed, one or two strips be reapplied, and a cold poultice or a pad of lint, constantly wet with cold water, kept to it until the symptoms have subsided. When an incised wound is extensive, and somewhat irregular, as is often the case in scalp wounds, a few tied stitches, with intervals between them, are often desirable. These are best inserted with a silk thread and a glover's needle. (*See CUT THROAT, HÆMORRHAGE.*)

PUNCTURED WOUNDS OR STABS.—Even when not of such depth as to cause immediate serious mischief, these do not repair themselves so rapidly as incised wounds. They are apt not to heal from the bottom, but to close near the surface first, when the matter which forms collects, and becomes confined. Where a splinter, a thorn, or other foreign body has run into the flesh, it is often difficult, and sometimes impossible, to extract it, or the extraction may only be partially effected. When it is desirable to get rid of a foreign body of the kind in question, it is much better at once to cut down with a lancet in the direction which it has taken, than to go poking and squeezing after it. Much irritation and inflammation often follow on these apparently insignificant injuries; the pain and swelling often extend up the limb, and red lines of inflammation are seen running towards the trunk; much fever may come on in consequence, and even lock-jaw has been known to result.

Our treatment must be that of inflammation; cold water dressing may be

used in the first instance, but if mischief be apparent, aperients and leeches may be necessary, and then we must encourage the formation of matter as speedily as possible by hot poultices and fomentations. As soon as ever matter is formed, free exit should be afforded for it by the use of the lancet, and a great cause of irritation will thus be removed.

CONTUSED AND BRUISED WOUNDS are where a part is crushed and cut at the same time. If the edges can be brought together with strips of plaster, or even a few stitches at any part, it is highly desirable, but that can rarely be done. Pads of lint or linen, kept constantly wet with cold water or the arnica lotion, constitute the best dressing, or cold poultices may be applied, if preferred. If the bruised part be so injured as to lose its vitality, it tends to slough or mortify, becoming pale or darker-coloured than natural. As soon as matter begins to form, and the extent of the dead part becomes defined, we should promote its separation by keeping warm poultices of linseed meal or bread and water applied, which must be continued until the slough comes away, and then the remaining wound must be treated as an ulcer.

LACERATED WOUNDS may amount merely to a scratch, which soon heals if properly protected, and not allowed to become irritated by any foreign body, such as soda or soap, in which case it may almost assume the character of a poisoned wound, and become very troublesome. A lacerated wound may, however, go to a considerable depth, and in itself be a very serious matter. It may be caused by a book or nail, or any sharp projecting point of wood or metal. If the flesh be torn without being stripped off, we may perhaps be able to apply a little plaster, or even a stitch or two, but we must be careful not to attempt too much in that way; whether plaster or stitches be used or not, the cold water dressing should be used as already described, but should much inflammation ensue, warm bread poultices must be resorted to, so as to promote the formation of matter, which cannot be avoided, and even if there be no great amount of inflammation, warm poultices may be desirable subsequently to the cold water dressing, and when union has taken place to some extent, so as to clear and cleanse the wound, and reduce it to the condition of simple ulceration.

SUFFOCATION, OR ASPHYXIA.

THIS state essentially and primarily depends on the exclusion of atmospheric air from the lungs, owing to any cause, so that the blood is prevented from undergoing its due change. Other mischief may combine with the mere exclusion of air, as I shall point out. Disease of the lungs and air-passages often causes death finally by producing suffocation, but we shall now only speak of those cases in which it is more directly and artificially occasioned. Thus it may be caused by: 1st, stifling; 2nd, foreign bodies in the larynx or windpipe; 3rd, hanging or strangulation; 4th, drowning.

STIFLING, or a simple state of suffocation, may depend on the admission of air through the nose and mouth being prevented.

FOREIGN BODIES IN THE LARYNX OR WINDPIPE.—The entrance into the air-passages, is most carefully protected, so as to prevent the entrance of any foreign body, which can only find admission by mischance, and this is requisite, for if the smallest substance gain access, it causes so much irritation and spasm as to give rise to serious interference with the respiration, over and above that which the mere mechanical obstruction will occasion. This is shown if the veriest trifle, such as a drop of any liquid, or a few particles of any coarse powder, such as bran, be inhaled, when violent coughing and much feeling of strangulation will be occasioned, and the irritation may even cause subsequent inflammation. As already pointed out, a solid substance may sometimes stick in the swallow or gullet, and this will occasion inconvenience, attended with pain, retching, and a sense of oppression, but this is very different from the suffocative tendency caused by foreign bodies in the larynx or windpipe. In eating or drinking, food will sometimes pass into the larynx (*go the wrong way*, as it is called), when it is swallowed hastily, and at the same time there is an endeavour to make an inspiration, or an attempt to speak. This is more especially the case when the food has been imperfectly masticated, and in separate pieces, instead of one pulpy mass. The accident sometimes occurs in vomiting, especially if the person be in a state of intoxication. A small solid body, such as a pea, a cherry-stone, or a piece of metal held carelessly in the mouth, may be drawn into the air-passages, and so cause suffocation.

Treatment.—The only thing that can be done by an unprofessional person is to pass the finger as far down the throat as possible, in the hope that the substance may have lodged just at the top of the opening into the larynx: this will be the more probable if it be pointed, like a fish-bone, and in such cases it may probably be removed. A solid body passing beyond the larynx and windpipe will sometimes lodge in one of the large air-tubes of the lungs, where, if it becomes fixed, and although it may not occasion such immediate inconvenience as when higher up, yet it will usually give rise to inflammation of acute or chronic character.

HANGING.—Suspension of the body by the neck occasions death in three ways: by pressure on the larynx or windpipe, so as to cause suffocation; by compression of the veins of the neck, so as to impede the return of blood from

the brain, thereby causing congestion and apoplexy; and by the violent jerk to the spine, the neck being dislocated. The two former modes of action usually combine together in their influence; the last is of a more rare occurrence, and can only be supposed to take place when there is a considerable fall, as in a public execution. In the latter instance, the death is most instantaneous, and where the fatal result does not depend on dislocation of the neck, it is probable that the passage of the air through the windpipe is rarely completely interrupted, and we may believe that the impeded state of the circulation of the brain constitutes the greater mischief. The chance of recovery must, of course, depend on the amount of pressure, and the way in which it has been applied, but generally very few minutes will elapse before death ensues.

Treatment.—Of course not a moment is to be lost in cutting a person down, and removing any pressure from the neck. The arms should be immediately tied up, a vein in each freely opened, even with a penknife, and if it can be obtained, a pint of blood should be suffered to flow. The clothes should be removed, the body placed in a semi-recumbent position, and cold water dashed over it; the chest should be perseveringly rubbed with sal volatile, turpentine, or spirit of any kind.

Strangulation causes death in a very similar way to hanging, but there are usually more external marks of violence, and more appearance of struggling having taken place.

DROWNING.—Total immersion in the water for a very few minutes is generally sufficient to cause death, but recovery may ensue after the lapse of a longer space of time, when the immersion has been but partial, and it would even appear that when a person falls into the water in a state of insensibility, especially when it arises from any concussion, that complete loss of vitality may not take place for a considerable length of time. The chance of life much depends on due means of restoration being resorted to immediately the body is recovered from the water, and therefore the knowledge of what ought to be done on such an occasion may be most serviceable, even to an unprofessional person.

PROPER METHOD OF TREATMENT IN CASES OF DROWNING.

It is a lamentable fact, that by carrying out the rules of the Royal Humane Society, and of the methods popularly adopted in cases of drowning, death has been caused in numerous instances in which life would otherwise have been restored, by the means described below, and which has been termed "Dr. Marshall Hall's Method," as that gentleman was the first to advocate this natural, simple, and effective system.

The following rules are copied from Dr. Marshall Hall's new work, on "Prone or Postural Respiration in Drowning":—

RULES TO BE ADOPTED IN EVERY CASE.

- I. Send with all speed for medical aid, articles of clothing, blankets, &c., but
- II. Lose not a moment of time, treat the patient **ON THE SPOT**, in the open air, exposing the face and chest freely to the breeze (except in too cold weather); then to excite respiration,
- III. Place the patient gently and for a moment or two on the face.

TO EXCITE RESPIRATION.

- 1st. By irritating the nostrils by snuff, hartshorn, &c.
- 2nd. By irritating the fauces by a feather, &c.

3rd. By dashing hot and cold water alternately on the face and chest. If these means fail

TO IMITATE RESPIRATION.

V. Replace the patient on his face, his wrist under his forehead, and—

1st. Turn the body gradually, but completely, on the side, AND A LITTLE MORE, and then again on the face alternately.

2nd. When replaced, apply pressure along the back ribs, and then remove it, and proceed as before.

3rd. Let the measures be repeated gently, deliberately, but efficiently and perseveringly, sixteen times in the minute only.

VI. Continuing these measures, rubbing all the limbs upward, making firm pressure energetically.

VII. Replace the wet clothes by such other covering, &c., as can be procured.

OMIT THE WARM BATH UNTIL RESPIRATION BE RE-ESTABLISHED.

This treatment has proved effectual after the body of a young man was completely submerged ten minutes in the Southampton Docks, on the 10th of October, 1857, as administered by Mr. Wiblin, Surgeon and Medical Superintendent of Quarantine, Port of Southampton.

POISONING.

POISONS are those substances which, when taken into the stomach, prove injurious by their own special nature: they may, of course, also be hurtful if applied to any other part of the body; thus, arsenical vapour may find its way into the system by the lungs, and lead through the skin, and so produce their noxious influence. Thus oxalic acid has been taken instead of Epsom salts, and laudanum swallowed instead of black draught; it is highly desirable to be able to act in any such emergency until medical aid can be obtained. When poisoning is suspected to have occurred, it will be desirable that any portion of the food last taken, which has been left, should be preserved, and also the matters vomited, in order to submit them to medical inspection.

When any poisonous substance has been taken, our first object must be to remove it from the stomach with as little delay as possible; by their acrid and irritating properties some poisons will evacuate themselves from the stomach, and we have merely to encourage the vomiting with warm water or any other mild diluent. When there is no sickness, or it appears insufficient, an emetic ought immediately to be administered. Half a drachm, or about one-third of a teaspoonful of sulphate of zinc (white vitriol), dissolved in a wineglassful of warm water, will generally cause vomiting promptly, or if necessary, it may be repeated in ten minutes; this is the best emetic, but if it be not at hand, ipecacuanha may be given in doses of half a drachm or a small teaspoonful, or antimonial wine in doses of a large tablespoonful repeated as often as requisite. If, however, the poison be narcotic, the last two emetic substances may not prove efficient, and if sulphate of zinc is not to be had, two or three teaspoonfuls of flour of mustard, mixed in a quarter pint of water, will make a good substitute, though, perhaps, if medical aid be at hand, the use of the stomach-pump may be more desirable; in such a case we should not rely merely on the emetic, but if it do not act speedily, we must irritate the throat by passing the finger as far back as we can. When an emetic has been given in a case of poisoning, no warm water or other fluid ought to be drunk until retching commences, as otherwise it will interfere with the emetic action. When the stomach has been thoroughly relieved, the next consideration will be as to the best means of counteracting the injurious effects produced, and we will, therefore, now proceed briefly to point out the treatment most appropriate for each of the principal poisons, and at the same time mention the symptoms which indicate their having been taken.

STRONG MINERAL ACIDS: SULPHURIC, OR VITRIOL; NITRIC, OR AQUA FORTIS; HYDROCHLORIC, OR MURIATIC, OR SPIRIT OF SALT.—*Symptoms.*—Intense heat in the throat; more or less difficulty in swallowing: sickness; excruciating pain in the stomach; the inside of the lips and mouth discoloured, having a burnt appearance.

Treatment.—No emetic must be given, as it will only aggravate the mischief of these caustic and irritant poisons. We must endeavour to counteract and neutralise their influence by the abundant administration of alkalis of any kind that can be most readily procured: magnesia, carbonate of magnesia, carbonate of soda, and in the absence of these, whiting, or even the lime plaster from the walls: these should be mixed with a considerable quan-

tity of water, and plenty of any mild diluent, such as milk, thin gruel, barley broth, &c., should be given. Violent inflammation of the stomach and bowels may result from these poisons if they do not destroy in the first instance.

OXALIC ACID.—*Symptoms.*—Burning pain in the stomach and throat; generally much vomiting of dark-coloured matter; great prostration of strength when it has been taken in large quantity.

Treatment.—No emetic is usually requisite: the antidotes are chalk, magnesia, carbonate of magnesia, or whiting: gruel and milk and water should be drank freely. Irritation and inflammation will often occur after poisoning with oxalic acid. In what is sold in shops as “Salts of Lemons” or “Salt of Sorrel,” oxalic acid is the principal ingredient.

SODA, POTASH, LIME, OR AMMONIA.—These may be swallowed by accident, especially in the form of common washing soda, pearlash, or soap-lees.

Symptoms.—Sharp burning pain in the throat and stomach; sense of tightness; difficulty of swallowing; injury to the lining of the mouth and lips by the caustic action; violent vomiting.

Treatment.—Any innocent acid will serve as an antidote, decomposing the alkali, such as vinegar or lemon-juice and water: a considerable quantity of common sweet oil may be swallowed subsequently, or indeed, if nearest at hand, may be given instead of acids. Inflammatory symptoms may come on afterwards.

ARSENIC is a well known and deadly poison, almost tasteless, very often resorted to for the purposes of murder and suicide. Happily now it is not so easily obtainable as formerly, its sale being now restricted by law. Its presence is very readily detected by chemical examination, whether contained in the food or remaining in the body, which is usually the case with any one who has died from its effects.

Symptoms.—Dryness, heat, and tightness in the throat; burning pain in the stomach; sickness; faintness; general depression and uneasiness; purging; shortness of breath; cramps in the legs and arms; weak pulse; cold, clammy skin; lividity of the surface; delirium; stupor; convulsions; the matter vomited is usually brownish mucus, which soon becomes streaked with blood. The signs of poisoning by arsenic are apt to vary considerably: in some the symptoms are those of excessive irritation, in others those of extreme depression, but most commonly they are combined. When arsenic has been taken in small and repeated doses, the most common symptoms are vomiting, purging, pain in the stomach, and fever, with general constitutional oppression. Should the sufferer survive the first stage of arsenical poisoning, slow inflammation of the stomach and bowels and various nervous symptoms will follow.

Treatment.—A sulphate of zinc or ipecacuanha emetic must be given in the first place, to be followed up with copious draughts of milk and water, or thin gruel, with which magnesia should be mixed. After an hour olive oil should be given in doses of a tablespoonful every quarter hour until it pass through the bowels. The use of the stomach-pump may be desirable in the first instance, and there is a peculiar preparation of iron which is said to be a good antidote, but these are only available at the hands of a medical man; in this, as well as in other forms of irritant poisoning, the use of opium is very beneficial. Arsenic is contained in the substances known as “Scheele’s green,” “mineral green,” “King’s yellow,” and “orpiment.”

BICHLORIDE OF MERCURY, OR CORROSIVE SUBLIMATE, AND THE OTHER PREPARATIONS OF MERCURY.—There is a strong coppery taste in corrosive sublimate, which cannot fail to be recognised.

Symptoms.—Tightness and burning in the throat; pain in the stomach; vomiting and purging, with much discharge of bloody mucus; great straining to make water; and, as a secondary effect, violent salivation.

Treatment.—Emetics are unnecessary. A raw egg should be beaten up in a little water and given every ten minutes; if this is not to be had, flour may be mixed up with water, and drank freely; milk and sugar and water also serve as antidotes. Olive oil given every hour or two will subsequently be of much service in allaying irritation.

ANTIMONY: TARTAR EMETIC; BUTTER OF ANTIMONY.—An over-dose of tartar emetic may be given by way of emetic.

Symptoms.—Violent vomiting and pain in the pit of the stomach, followed by purging and colic.

Treatment.—Half a teaspoonful of powdered bark may be given every ten minutes or quarter hour, mixed with water, to the extent of five or six doses, or if not at hand, half a cupful of strong tea may be substituted. Olive oil should subsequently be administered.

NITRATE OF SILVER, OR LUNAR CAUSTIC.—A piece may be swallowed by accident.

Symptoms.—Violent pain in the stomach, and other signs of irritation.

Treatment.—The best antidote is common salt, half a teaspoonful every ten minutes or quarter hour to the extent of three or four doses. Soothing diluents should be drank freely; subsequently the olive oil may be taken as before directed, and if much pain continue, a full dose of laudanum should be given.

LEAD, ACETATE AND CARBONATE OF.—The acetate or sugar of lead has much the appearance of white sugar, and has also a sweetish taste. Goulard's extract is a solution of the acetate of lead.

Symptoms.—A sense of constriction about the stomach, colic, vomiting.

Treatment.—The administration of a sulphate of zinc emetic. An ounce of Epsom salts may then be dissolved in a pint of warm water, and of this a wine-glassful may be given every ten minutes or quarter hour; if there be any great pain, five drops of laudanum may be added to each dose. Slow poisoning is generally occasioned by the carbonate of lead, and is of very common occurrence with lead-miners, house-painters, or others who have much occasion to handle the metal or its preparations. Water in leaden cisterns, or passing through lead pipes, will sometimes become so contaminated as to exert a poisonous influence.

HYDROCYANIC, OR PRUSSIC ACID.—This is the most terrible of poisons, from the rapidity and potency of its action. The mere smell of it in a concentrated state is dangerous; if swallowed in sufficient quantity death is almost instantaneous; but if the dose be smaller, the fatal result may not occur so promptly.

Symptoms.—Speedy insensibility; slow and interrupted respiration; a glistening appearance of the eyes, with dilated pupils, and convulsions. When a large dose has been taken there is little chance of recovery: giddiness and loss of muscular control may be experienced, even where the quantity has been very moderate.

Treatment.—Cold water should be dashed over the face and neck; smelling salts or strong solution of ammonia should be held to the nose, and a little brandy or sal volatile and water should be got down the throat as speedily as possible. Subsequently the patient should be kept roused by the administration of strong coffee and other stimulants, and by moving about in the open

air. The oil of bitter almond and cherry laurel water are poisonous, owing to the hydrocyanic acid which enters into their composition.

OPIUM, LAUDANUM, AND THE SALTS OF MORPHINE.—There are numerous recognised preparations into the composition of which opium enters. Morphine is its active sedative principle. Dalby's carminative, Godfrey's cordial, and other popular preparations contain opium, and these and even laudanum are largely used among the children of the lower classes, and by ignorant nurses; and in this respect they are assuredly productive of a vast amount of mischief. Not only is their use far more often attended with fatal results than we are in any way able to ascertain, but we may also feel assured that the after consequences of the habitual administration of opiates in infancy have a strong tendency to occasion diseases of various kinds. We have, however, here merely to treat of obvious poisonous influence.

Symptoms.—Giddiness, drowsiness, and stupor are the direct effects of a full dose of opium; it may also occasion headache, quick and irregular pulse, faintness, hurried breathing, copious perspiration, and even delirium and convulsions. The symptoms are, however, liable to much variation, according to the quantity taken, the nature of the constitution, and the peculiar state of the system at the time; and such is the case whether the poisonous influence be sufficient to occasion death or only a minor degree of injury.

Treatment.—A sulphate of zinc or mustard emetic should be given at once, and the effect accelerated by irritating the throat: if, however, the patient be so far unconscious as to be unable to swallow, the stomach-pump affords the only means of getting rid of the poison, and should be resorted to with as little delay as possible. Cold water may be dashed over the head and face, ammonia should be applied to the nostrils, and the patient must be roused by pinching and shaking. When the stomach is emptied and well washed out with warm water, either through the agency of the stomach-pump or emetics, a teaspoonful of sal volatile should be given in a little cold water, and small quantities of strong tea or coffee without milk or sugar may be repeatedly administered at short intervals. When a large amount of opium has been taken, and the person has been powerfully affected, he must not be suffered to sleep for at least six hours, but be kept walking up and down exposed to the air. A strong purgative dose should be given; croton oil is, perhaps, the best, and if the head continue much affected, some blood must be taken from the arm.

DIGITALIS, HEMLOCK, ACONITE, TOBACCO, AND OTHER NARCOTICS.—The symptoms produced by these poisons are in a great measure similar to those caused by opium, but in addition to their narcotic action, many of them have much irritating acrid power when taken in large quantity, aconite or monkshood, for example, which is indicated by heat and dryness in the mouth and throat, sickness, purging, and colic, in addition to the stupifying power exerted on the nervous system; in some instances the brain, losing its natural power, may be much disturbed, and even thrown into a state of intense delirium.

Treatment.—An emetic of sulphate of zinc, tartar emetic, or ipecacuanha, should be given without loss of time, and be followed up with abundance of warm water, when once vomiting begins, so as to clear the stomach thoroughly from the poisonous substance: subsequently thin gruel, barley water, or linseed tea, may be drunk freely, and a tablespoonful of olive oil should be given every quarter hour till it goes through the bowels. If there be great pain and irritation of the stomach and intestines, large mustard poultices should be applied over the abdomen repeatedly, and if fever and inflammation ensue, bleeding must be resorted to.

POISONOUS ANIMAL AND VEGETABLE SUBSTANCES.—Animal food which has become putrid, or which, though not obviously so, has been badly preserved, or from any other cause has undergone some peculiar chemical change; fish which is not fresh, or some particular kinds, especially of shell fish; vegetable matter which has undergone partial decomposition, such as diseased potatoes, and some peculiar growths, many of the mushroom tribe, for example,—may produce marked poisonous effects; sickness, headache, spasm of the stomach and bowels, may be the consequence of eating any of these, and even violent nervous symptoms have ensued.

Treatment.—An emetic may be given in the first instance, and some amount of stimulus may be desirable; an active aperient, such as a full dose of castor oil, should be administered subsequently.

SPIRITUOUS LIQUORS.—The intoxication which these occasion, whether taken as spirit or in the diluted forms of wine and beer, must be considered as the result of a poisonous influence. The liquids in question are given to us for nourishment and to make glad the heart, but if they be taken in excess, and thereby interfere with digestion, or in any way to prejudice the nervous system, so as to vitiate the perceptions, the moral feelings, or the judgment, then they become noxious in a high degree, and the blessing is converted into a curse. (*See DIET.*) In intoxication in the first degree there is undue excitement of the circulation, giddiness, want of control over the muscular power, uncertain and imperfect vision, and then various forms of delirium; this may pass into a torpid sleep; sickness generally comes on sooner or later; and deranged stomach, headache, and general languor constitute the last stage immediately belonging to the unnatural state, though it may leave an unfavourable impression on the constitution of the offender, which, often repeated, is sure sooner or later to rise up in judgment against him. (*See DELIRIUM TREMENS.*) In intoxication in the second degree there is an almost perfect state of stupor and insensibility; sensation, thought, and power of motion are in abeyance, and it is hardly possible to rouse the person. There is complete relaxation of the muscles, the breathing is hard and irregular or almost imperceptible, the face is suffused or of deadly pallor, and the pupils of the eyes are widely dilated, and perhaps insensible to light. A kind of apoplectic condition, in fact, is established, or else a state similar to the complication of compression and concussion of the brain, and there may even be danger of life.

Treatment.—The effectual evacuation of the stomach is essential; if the patient can be aroused sufficiently to swallow, a sulphate of zinc or mustard emetic must be given; but if there be much excitement or labouring state of the pulse, then one of tartarized antimony will be preferable; two grains of it may be given either in powder or dissolved in a little warm water, and half the quantity may be repeated every ten minutes until it takes effect; if the person cannot be made sufficiently sensible to swallow, then the use of the stomach pump is desirable. After the stomach has been well emptied, cold water may be dashed over the head and face, and a teaspoonful of sal volatile can be given in a little water. If thorough vomiting once takes place, there is little fear of the patient not doing well; if he remain partially stupified, he should be put to bed to sleep it off, and if the extremities be cold, heat should be applied to them. Apoplectic symptoms remaining may necessitate the abstraction of blood and other treatment. In minor cases of intoxication many remedies have been suggested. An emetic is most effectual: cold water may be freely applied to the head and face with benefit; two or three doses of sal volatile may be effectual, but carbonate of soda, taken in quantities of half a teaspoonful at a time, is more beneficial; vinegar is also said to be serviceable.

THE BITE OF A MAD DOG.—The part bitten to be immediately and completely cut out, the wound immersed in warm water, and washed with it as long as it will bleed; after which the entire surface of the wounded part to be rubbed over with lunar caustic, and covered with a poultice.

Hydrophobia has hitherto baffled every exertion in medicine; and everything which has offered a prospect of success in the treatment of so dreadful a malady has been fairly tried, and found ineffectual. Death commonly takes place about the third or fourth day from the first appearance of the symptoms.

THE HARVEST BUG is a minute poisonous insect of bright red colour, which will bury itself beneath the skin, and cause much itching and discomfort. It ought to be carefully picked out, for if crushed and left behind, it may give rise to a considerable amount of irritation. In America this plague is said to be of far worse description than in this country.

MOSQUITOES, GNATS, AND BUGS not only wound the surface and draw blood, but also instil a poison into the wound, causing much smarting and irritation. Smearing the part with olive oil, or bathing it with warm lead lotion, or a strong solution of carbonate of soda, are the best remedies.

HORNETS, WASPS, AND BEES.—The poisoned wounds made by these insects in their anger are productive of much pain and irritation. They often occasion much swelling and inflammation, more especially with some persons than others. If the sting be left in the wound, it should be removed, if possible, with a pair of tweezers or a needle, or by being pressed out. The best applications are strong solution of common soda or pearlash, sal volatile, or hartshorn; gentle friction with olive oil will be serviceable. If much inflammation remain subsequently, hot fomentations and poultices, or the application of lead lotion, may be required.

SURGICAL AND EXTERNAL APPLIANCES.

ISSUES AND SETONS.—These constitute important means of counter-irritation, especially in chronic disease. An issue is an artificial sore from which a discharge may be kept up. The common way of making one is by pinching up a fold of the skin, and making an incision in it which will admit the insertion of two or three peas, which are to be secured with a piece of plaster; they should be changed every two days as long as it is desirable to keep the issue open. Another method is by raising a small blister, stripping off the skin, and keeping the raw surface dressed with ointment of cantharides. A seton is made by passing a skein of silk through a fold of the skin with the aid of what is termed a seton lancet. Tapes of caoutchouc or gutta-percha are preferable to the silk; the ends should be secured with cotton tapes. In the course of a few days there will usually be a discharge of thick matter. The seton must be cleansed once or twice daily, and the position of the tape should be changed by moving it first in one direction and then in another: it should be smeared over at the time with simple ointment, or if the discharge be not free, resin ointment may be used for a dressing. The surface should be kept protected by binding a couple of folds of lint or linen rag lightly over it.

BLISTERS are sometimes of much service in medical treatment, and it is desirable that their management should be well understood. The common way of making a blister is to spread the cantharides plaster with the thumb on a piece of adhesive plaster, leaving a free margin of a quarter inch, which will serve to fix it. The cantharides plaster requires to be warmed and softened in the hands before it can be spread. The blister should always be warmed at the fire before it is applied, and care should be taken that it fit thoroughly over the surface. Various blistering tissues are now prepared by soaking paper with the active principle of the cantharides or Spanish fly; this kind of blister is more convenient and cleanly than the common plaster, but certainly not so powerful. The surface should be well washed with soap and warm water before the blistering tissue is applied: it should then be accurately adjusted and a folded cloth or handkerchief placed upon it, so as to keep it well in contact with the skin. In the adult a blister will generally require from twelve to twenty-four hours to produce its full effect, that is, to cause the skin to rise by the formation of fluid beneath it, but on delicate skins it will act more speedily, and in an infant or young child from four to six hours is long enough to keep a blister applied. The part should be examined from time to time, and if the blister have even only partially risen, the subsequent application of a hot poultice will complete the effect, and on this we should especially rely in infants or where we have an irritable constitution to deal with; when the blister has been applied as long as we think desirable. The reason why caution is necessary in the use of blisters is, that the active principle of the cantharides is apt to become absorbed into the system, when it will often occasion much irritation of the urinary organs, especially the bladder, characterized by burning pain and constant desire and violent straining to pass water, which comes away in very small quantity and often mixed with blood. This state is very distressing while it lasts, though not attended with danger. It may almost always be prevented by drinking plentifully of mild diluents, such as barley water, linsced

tea, or milk and water, while the blister remains applied. Night-time is generally the best period for putting on blisters, as they will then usually rise during sleep, and their application not be noticed or felt. Another mode of blistering, which is very convenient when it is desirable to effect it speedily or with as little irritation as possible, especially in young children, is by friction with strong vinegar of cantharides until it produces the effect, or by the application of a piece of lint of the requisite size moistened with the liquid, and renewed from time to time as it gets dry until the blister rises. As already mentioned, if a blister do not rise as thoroughly as is wished, the imperfection may be remedied by the application of a hot poultice, and even when a good blister is formed, a poultice will often be the best dressing in the first instance, as it will promote the flow of watery matter, which serves to draw off and counteract the internal disease. When a blister has sufficiently risen, we must at once proceed to open the watery bladder by making small incisions with scissors in its lowest and most depending part, so that the fluid may run out. Sometimes the fluid, being of gelatinous consistency, will not escape, and then we must leave it to ooze out gradually. The first dressing (after the poultice, if it have been used) may consist of fresh lard or butter, or spermaceti ointment spread on rag or lint, and over it should be laid a folded napkin, so as to absorb any moisture. It is not generally desirable that the skin should be stripped off the blistered surface, though, if part come away by accident, it is of no consequence; otherwise it may be suffered to remain, when it becomes dry and peels off gradually, as the new skin forms. The dressings should be changed twice a day, and should always be made ready before the blistered part is uncovered, as it should on no account remain exposed. The surface will sometimes become much inflamed, generally from mismanagement, and in such case a bread poultice may be applied, and the lead ointment be subsequently used as a dressing.

POULTICES afford the best means of applying warmth and moisture, and are also capable of exerting other local medicinal influence, according to their composition. They have an advantage over other fomentations in not occasioning so much disturbance and exposure of the part; they protect the surface at the same time that they maintain an agreeable tepid warmth. They should never be made too soft or sloppy.

BRAN POULTICES are best made by filling a flannel bag of sufficient size from one-third to one-half full of dry bran. This is to be soaked in boiling water, then dried between cloths, pressing out as much of the moisture as possible, and at once applied to the affected part, spreading out the bran in the bag equally over the surface. This can be renewed often. A bran poultice is an excellent means of applying heat and moisture.

BREAD AND WATER POULTICES are made by cutting a sufficient quantity of stale bread into a basin in thin slices; on this pour boiling water, and after it has been thoroughly soaked drain it well, then with a fork beat up the bread into a fine pulp, which is to be quickly spread on a folded cloth to the thickness of about half an inch, and applied immediately. If it be wished for the poultice to be very light, the bread must be sliced very thin and well drained, but not beat up. The poultice should be changed every four or six hours. A bread poultice may be made the medium of applying different medicaments to the surface, such as laudanum, or strong solution of acetate of lead, which can be sprinkled over the surface.

LINSEED MEAL POULTICES.—For this purpose we must take care that the flour of linseed which we use is good. Of this a sufficient quantity is to be put

in a basin and well beaten up with a due proportion of boiling water, so as to make a smooth soft mass, but not too pasty. This is to be spread out on a cloth to the thickness of half an inch. It is then to be laid smoothly on the surface for which it is intended. Linseed meal poultices appear to have some stimulating action, but this is chiefly owing to the warmth combined with the complete prevention of all evaporation and secretion from the skin. Undoubtedly they have a very good drawing effect, cleansing foul indolent sores, and promoting the secretion of matter: in cases of abscess they "*bring the gathering to a head*," as it is popularly called.

YEAST POULTICES are often useful in stimulating unhealthy and putrid ulcers; they may be made by adding yeast to a linseed-meal poultice, or by mixing the yeast with oatmeal so as to bring it to a proper consistence.

MUSTARD POULTICES OR SINAPISMS.—These are very useful applications. Various methods of preparing them are recommended, but the following is simple, most efficacious, and the least troublesome. A sufficient quantity of soft bread and water poultice should be made as already recommended, and with this an equal proportion of flour of mustard should be gradually and thoroughly mingled; this should be spread on a piece of linen or calico of just sufficient size, to the thickness of a quarter inch, and a piece of fine muslin being laid over it, the edges of the linen or calico should be turned back upon it, and then it may be applied to the part affected. A mustard poultice should remain on from twenty minutes to half-an-hour, but a much shorter time for young children; with them indeed it should be taken off two or three minutes after the skin begins to redden. A mustard poultice made as above directed may not act so powerfully as when made of mustard alone, but it will exert more permanent and thorough influence, and, from the mustard not adhering to the skin, it does not cause so much subsequent discomfort. The muslin is not absolutely necessary. Mustard poultices are often made with vinegar, but it is an useless addition, and does not increase the strength.

FOMENTATIONS are warm fluids applied to the surface in order to relax the skin, which is thus made more yielding; it thereby renders inflammatory swelling less painful, and it also relieves it by promoting perspiration. In the same way fomentations are beneficial in allaying the irritation and swelling consequent on a bruise, and by their soothing influence they also serve to relieve internal cramp and pain. Fomenting, if well done, will afford great comfort, and be of much service. To do it properly, a folded sheet, jack towel, or piece of oiled silk or cloth, should be smoothly spread beneath the part to be fomented. Two good-sized pieces of coarse flannel are to be employed, the one being got ready while the other is being used. One of these, wrung out of hot water, is to be wrapped round or laid upon the part to be fomented as hot as it can be borne, and a piece of oiled silk or a dry towel should be placed over it, so as to cause the warmth to be retained. Every ten minutes or quarter-hour this must be renewed, with as little delay and exposure as possible, and this may be continued to the extent of two or three hours if requisite. Warm water generally constitutes as good a fomentation as can be applied, but for a bruise or sprain we may prepare a medicated one by boiling four or five poppy beads broken up, and without the seeds, and a handful of chamomile flowers, in two quarts of water, for a quarter-hour, and then straining; a handful of the flowers of the *arnica montana*, treated in the same way, makes a still better fomentation.

LOTIONS are external fluid applications, which may be cooling, soothing, stimulating, or astringent. *Cooling lotions* derive their virtue from conducting away the heat of a part, which is aided by the evaporation which they give rise

to, and thus they tend to relieve any inflammatory condition. To ensure the cooling action there should be no impediment to the evaporating process; therefore, the part affected must be freely exposed to the air, and not wrapped in folds of rag or lint, or covered up with clothes; one layer of linen or muslin will be quite sufficient to keep the moisture applied, more will only serve to prevent evaporation, and it must be renewed as often as it begins to get warm and dry, or may even be kept moistened without being moved. Fresh spring water constitutes a very excellent cooling lotion. The addition of half a quartern of spirit of wine or a quartern of brandy to a pint of water will make a lotion more cooling in some respects, and one composed of one-quarter vinegar and three-quarters water may be very serviceable, especially in bruises and sprains. F. 124 is a very useful lotion. It is only when applied as above directed that lotions can be termed cold. Unless constantly renewed and exposed to the air, the moisture soon assumes a tepid warmth, which, though it may be soothing, is at the same time somewhat stimulating. This is especially the case in reference to cold water dressing, which, applied on this principle, by means of wet bandage, &c., is often of the greatest utility. *Soothing lotions* are in some measure similar to the ones just noticed, but may be rendered somewhat more medicinal in their nature; of this kind we have the common lead lotion, also F. 57, or two or three tablespoonfuls of laudanum may be added to the ordinary spirit lotion, or a quarter-ounce of chloric æther in half a pint of water makes a very agreeable application. *Stimulating lotions* are used to some indolent and unhealthy ulcers, and to encourage sluggish sores to heal. The black wash (*see* MERCURY), nitric acid lotion, and chloride of soda lotion, are good forms, also F. 137, 138. In this and the following kind of lotion evaporation is neither necessary nor desirable. *Astringent lotions* include various kinds of eye-water, gargle, such as F. 59, 60, 61. In them, as well as in ordinary external applications, alum, zinc, and lead, are the common ingredients.

EMBROCATIONS AND LINIMENTS.—The most useful embrocations and liniments are the liniment of soap, ammonia, camphor, turpentine, mercury, and of opium, also F. 19, 20, 135, 136, 139.

WEIGHTS AND MEASURES, ETC.

APOTHECARIES' weight, which is used in preparing medicines, is similar to the troy weight, but the subdivision of the ounce is different. To the name of each weight a peculiar character is attached, as shown beneath, and these are used technically in prescriptions, &c., but I have preferred simple English abbreviations for use in this work, as being less liable to mistake.

The pound, lb.	contains 12 oz., ℥xij.
ounce, ℥ or oz.	„ 8 drms., ℥vii.
drachm, ℥ or dr.	„ 3 scruples, ℥iij.
scruple, ℥ or 20 grs.	„ 20 grs., gr. xx.
grain, gr.	

Liquid measure is derived from the imperial gallon, which is thus divided for medicinal purposes :—

The gallon, C.	contains 8 pints, Oviiij.
pint, O.	„ 20 ounces, f℥xx.
f ounce, f℥ or oz.	„ 8 drachms, f℥viiij.
f drachm, f℥ or dr.	„ 60 minims, ℥lx.

The wine pint contains only sixteen fluid ounces, which distinction must be borne in mind. Minims, in some measure, correspond to drops, but the former is an exact measure, while the latter are liable to much variation, according to the nature of the fluid and the size of the lip of the bottle out of which they are dropped. On an average, a drop does not contain above two-thirds of a minim. In the following pages drops are usually prescribed instead of minims, as being more convenient for popular use, and due allowance is made in reference thereto, but the distinction must be remembered.

In prescribing the quantity of a medicine to be taken, various terms are in common acceptance, which are very vague. Thus we speak of *teaspoonfuls*, *dessertspoonfuls*, *tablespoonfuls*, and *wineglassfuls*. A teaspoonful should amount to one drachm, a dessertspoonful to two drachms, but their capacity is usually greater; a wineglassful is meant to express two ounces, but the size of wineglasses varies greatly. For the administration of medicines, therefore, a graduated glass should be used, which prevents the liability to mistakes, and the above familiar terms then assume an accurate meaning, in lieu of one which is merely approximative and vague.

DOSES.

In the following pages the average doses of the different medicines for adults are given, but these of course require much modification, according to age, sex, constitution, habit, state of stomach, and nature of the existing complaint. Females will require smaller doses than males, and the peculiar uterine state that exists must always be taken into consideration. A weakly state of system, or an excitable temperament, require doses below the average, while indolent and phlegmatic constitutions require full medicinal administration. Irritable states of system often bear the action of medicines untowardly, and much management is requisite to make them available, even when absolutely neces-

sary. The power of habit will often interfere much with the effect of medicines. The nature of the complaint will generally be an important element in our calculation. Some maladies require large doses, others small ones, and while, on the one hand, the existence of a disease may render a person capable of bearing a large amount of any special medicinal action without the production of any injurious effect, on the other hand, another disease may render him so susceptible of the same medicinal influence that, if it must be applied at all, it ought to be so most sparingly, and with the greatest caution.

The following table of proportionate doses will be available.

LIST OF DRUGS, WITH THEIR DOSES, PROPERTIES, AND BEST VEHICLE

LIST OF DRUGS, ETC.

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MEDICINES.	DOSES.		Proper vehicle and periods of repetition.	Properties or Effects.	DISEASES PROPER FOR.
	Adults.	Children from 2 to 4 years.			
ETHER, CHLORIC	10 to 30 drops ...	6 to 10 drops ...	Camphor julep ...	Antispasmodic...	Asthma, cramp, &c. &c.
ETHER	10 to 30 drops ...	Ditto ...	Ditto ...	Ditto ...	Asthma, cramp, and flatulency.
ETHIOPS, MINERAL	15 to 30 grains ...	5 to 10 grains ...	Honey, twice a day ...	Alterative ...	Scald head and cutaneous eruptions.
ALMONDS, EMULSION OF	Wine glassful ...	1 to 2 table spnfs. ...	Every 2 or 3 hours... ..	Demulcent ...	Strangury, cough.
" ALOES, OIL OF	1 to 3 drachms... ..	30 to 60 drops ...	Honey, every 2 or 3 hours ...	Ditto ...	Ditto.
" ALOES, SOCOTRINE.....	5 to 10 grains ...	3 to 6 grains ...	In pills or powder ...	Purgative ...	Obstinate costiveness.
" TINCTURE OF.....	3 to 6 drachms... ..	1 to 2 drachms... ..	Water	Ditto ...	Ditto and worms.
" WATERY EXTRACT OF..	10 to 15 grains ...	3 to 4 grains ...	In pills, occasionally ...	Ditto ...	Costiveness.
ALUM POWDER.....	10 to 20 grains ...	3 to 10 grains ...	Ditto twice a day ...	Astringent ...	Hooping cough, chronic dysentery.
AMMONIAC GUM	5 to 10 grains ...	... ..	Ditto ditto ...	Expectorant ...	Chronic cough, asthma, &c.
" MILK OF.....	3 table spoonfuls ...	1 dessert spoonful ...	2 or 3 times a day ...	Ditto ...	Ditto.
ANTIMONIAL POWDER.....	3 to 5 grains ...	1 to 3 grains ...	Honey ...	Sudorific ...	Inflammatory fever, pleurisy, &c.
" WINE, as an emetic ..	2 to 8 drachms... ..	1 to 2 drachms... ..	Water	Emetic ...	Hooping cough, &c.
" " as an alterative ..	12 to 20 drops ...	4 to 8 drops ...	Barley water, twice a day ...	Sudorific ...	St. Anthony's fire, cutaneous erupt.
AROMATIC CONFECTION	15 to 30 grains ...	4 to 8 grains ...	Cinnamon water, 2 or 3 times a day.	Astringent & cordial ...	Purging and cramp in stomach.
ASSAFETIDA, TINCTURE OF.....	30 to 60 drops ...	8 to 12 drops ...	Water, every 3 or 4 hours ...	Antispasmodic...	Hysterics, asthma, & hooping cough.
" VOLATILE SPT. OF	20 to 40 drops ...	4 to 8 drops ...	Ditto ditto ...	Ditto ...	Ditto and fainting.
" PILL	10 to 15 grains ...	... ..	In pills, twice a day ...	Ditto ...	Ditto.
BALSAM COFAIVA	20 to 40 drops ...	6 to 8 drops ...	In honey, twice a day ...	Diuretic & balsamic ...	Gravel, chronic cough, &c.
OF TOLLU, TINCTURE OF	30 to 60 drops ...	... ..	In honey or water, twice a day ...	Stimulant & pectoral ...	Flatulency and chronic cough.
BARK, PERUVIAN POWDER	20 to 60 grains ...	6 to 10 grains ...	Mint water, 4 or 5 times a day ...	Tonic ...	Ague, indigestion, weakness.
DECOCTION	3 to 4 table spnfs. ...	1 to 2 table spnfs. ...	3 or 4 times a day ...	Ditto ...	Relaxation and weakness.
" TINCTURE OF	2 to 4 drachms ...	40 to 60 drops ...	Water, ditto ...	Ditto ...	Ditto.
" HUXHAM'S	2 to 4 drachms ...	Ditto ...	Ditto, 3 times a day ...	Ditto ...	Ditto.
BASILIC POWDER.....	20 to 25 grains ...	6 to 8 grains ...	Honey, twice a week ...	Vermifuge purgative ...	Worms, costiveness, and dropsy.
BUCHU LEAVES, EXTRACT OF ..	10 to 15 grains ...	... ..	Pills, 2 or 3 times a day... ..	... ..	Irritation in bladder, prostatic gland.
" TINCTURE OF	2 to 3 tea spnfs... ..	... ..	3 times a day, in decoction of marshmallow root ...	... ..	Ditto.
CAJAPUT, VOLATILE LINIMENT OF	... ..	... ..	To be rubbed over the part affected ...	... ..	... ..
CALOMEL	1 to 5 grains ...	... ..	In pill or powder ...	Stimulating ...	Rheumatism, sprains, &c.
CALUMBA POWDER	10 to 20 grains ...	3 to 5 grains ...	Mint water, 3 times a day ...	Alterative ...	Billous and liver complaints, &c.
" TINCTURE OF	1 to 3 drachms ...	10 to 20 drops ...	Ditto ditto ...	Stomachic ...	Indigestion, chronic looseness.
CAMPHOR	2 to 4 grains ...	1 to 2 grains ...	Ditto ditto ...	Ditto ...	Ditto.
" JULEP OF	2 to 4 table spnfs. ...	3 to 4 drachms... ..	3 times a day ...	Antispasmodic... ..	Hooping cough, convulsive fits.
				Ditto and febrifuge...	Nervous fever, ditto.

MEDICINES.	DOSES.		Proper vehicle and periods of repetition.	Properties or Effects.	DISEASES PROPER FOR.
	Adults.	Children from 2 to 4 years.			
CARDAMOM SEED, TINCTURE OF	2 to 3 drachms ...	... ..	Water, 3 times a day ...	Stimulant ...	Sea sickness, &c.
" COMP. TINCTURE OF	2 to 4 drachms ...	... ..	Ditto ditto ...	Stomachic ...	Flatulence, &c.
CASTOR OIL, COLD DRAWN.....	4 to 8 drachms ...	1 to 2 drachms...	Mint water ...	Purgative ...	Colic, costiveness.
CASCARILLA POWDER.....	10 to 20 grains ...	3 to 6 grains ...	Ditto 3 times a day ...	Stomachic... ..	Indigestion, weakness.
" TINCTURE OF	1 to 3 drachms ...	20 to 20 drops ...	Water, 3 times a day ...	Ditto	Ditto ditto.
CATECHU, TINCTURE OF.....	1 to 2 tea spfns. ...	10 to 20 drops ...	Mint water, 3 times a day ...	Astringent... ..	Chronic looseness.
CHALK, PREPARED	1 to 15 grains ...	4 to 6 grains ...	Ditto 4 times a day ...	Ditto	Looseness, acidity.
CHAMOMILE FLOWERS	10 to 20 grains ...	5 to 10 grains ...	Mint water, 2 or 3 times a day ...	Stomachic vermifuge	Indigestion, worms, &c.
CINNAMON POWDER	5 to 10 grains ...	2 to 4 grains ...	Water, 3 times a day ...	Stomachic... ..	Ditto flatulence, &c.
" ESSENCE	3 to 10 drops ...	1 drop	Ditto	Stimulant ...	Flatulence, &c.
" TINCTURE OF	3 to 4 drachms ...	20 to 30 drops ...	Water	Astringent... ..	Looseness.
CRETAECIOS POWD. WITH OPIUM	10 to 20 grains ...	4 to 6 grains ...	Ditto, every 3 or 4 hours	Astringent... ..	Obstinate purging and dysentery.
COLCHICUM SEEDS, EXTRACT OF	1 grain ... ..	... ..	In pill, twice a day ...	Sedative and diuretic	Rheumatism, gout.
" TINCTURE OF	1 tea spoonful ...	... ..	In water, twice a day ...	Ditto ditto	Ditto
COLOCYNTH PILL, COMPOUND ..	10 to 15 grains ...	4 to 6 grains ...	Occasionally	Purgative ...	Costiveness.
" EXTRACT COMP. ..	Ditto	Ditto	Ditto	Ditto	Ditto.
" POWDER	Ditto	Ditto	Ditto	Ditto	Ditto.
CREAM OF TARTAR	1 to 4 drachms ...	20 to 30 grains ...	Honey, every morning ...	Ditto	Dropsy, &c.
CUBEBS, GROUND	15 to 30 grains ...	... ..	3 times a day, in water ...	Balsamic ...	... ..
" TINCTURE OF	2 to 3 tea spfns. ...	... ..	Ditto ditto ...	Ditto ... ..	... ..
DOVER'S POWDER	10 to 20 grains ...	3 to 6 grains ...	In water	Sudorific & anodyne	Rheumatism, recent colds, &c.
ELIXIR OF VITRIOL	10 to 20 drops ...	3 to 5 drops ...	Ditto, twice a day ...	Stomachic ...	Indigestion, flatulence.
ELECTUARY, LENTIVE	2 to 20 drachms ...	$\frac{1}{2}$ to 1 drachm...	Occasionally	Gentle aperient	Costiveness.
GENTIAN, TINCTURE OF	1 to 2 drachms ...	12 to 30 drops ...	Water, 3 or 4 times a day ...	Stomachic... ..	Indigestion, flatulence, &c.
" EXTRACT OF	5 to 10 grains ...	... ..	In pills, twice a day ...	Ditto	Ditto ditto.
" GINGER POWDER	20 to 60 grains ...	... ..	Water, twice a day ...	Stimulant ...	Ditto spasms, &c.
" ESSENCE OF	1 tea spoonful ...	... ..	Soda water, &c., twice a day.	Ditto and stomachic	Ditto ditto.
" TINCTURE OF	1 to 2 drachms ...	... ..	Water, twice a day ...	Stimulant ...	Ditto ditto.
GUALIACUM, GUM	5 to 15 grains ...	... ..	In pills, twice a day ...	Sudorific ...	Chronic rheumatism, gout.
" VOLATILE TINCT. OF	1 to 3 drachms ...	... ..	Honey & water, 3 times a day	Ditto	Ditto ditto.
HARTSHORN, SPIRIT OF	20 to 40 drops ...	5 to 8 drops ...	Water ditto ...	Stimulant ...	Hysterics, convulsions, heartburn.
" BURN'T PREPARED	20 to 40 grains ...	5 to 10 grains ...	Mint water, twice a day ...	Astringent... ..	Purgine, acidity, and heartburn.
" TINCTURE OF	15 to 20 grains ...	4 to 6 grains ...	Ditto	Purgative stomachic	Costiveness, irregularities.
HERA PICRA	2 to 4 drachms ...	30 to 40 drops ...	Water... ..	Stomachic vermifuge	Ditto ditto & worms.
" TINCTURE OF	30 to 40 drops ...	6 to 10 drops ...	Ditto, twice a day ...	Antispasmodic...	Nervous fever, asthma, hysterics.
HOFFMAN'S ANODYNE.....	20 to 40 drops ...	4 to 6 grains ...	Mint water	Purgative ...	Costiveness, worms.
JALAP POWDER	10 to 15 grains ...	3 to 5 grains ...	In pills, occasionally ...	Aperient	Ditto.
" EXTRACT OF	2 to 4 drachms ...	... ..	Mint water	Purgative ...	Ditto.
" TINCTURE OF	10 to 30 drops ...	... ..	Decoction of marshmallow	Alterative ...	Scrofula and wen.

MEDICINES.	DOSES.		Proper vehicle and periods of repetition.	Properties or Effects.	DISEASES PROPER FOR.
	Adults.	Children from 2 to 4 years.			
IPERCACUANNA POWDER	20 to 30 grains ... 4 to 8 drachms ...	5 to 10 grains ... 2 to 3 drachms ...	Water Ditto	Emetic Ditto	Measles.
IRON (<i>see</i> STEEL) .....	...	...	...	...	...
KINO GUM, TINCTURE OF	2 to 3 drachms ...	15 to 20 drops ...	Mint water, 3 or 4 times a day	Astringent ...	Looseness, dysentery.
LAVERDER, SPIRIT COMPOUND ...	30 to 80 drops ...	10 to 20 drops ...	Water	Cordial	Faintness or lowness of spirits.
LOBELIA INFUSATA, EXTRACT ...	1 grain ... ..	... ..	In pill, twice a day ...	Antispasmodic and expectorant ...	Asthma and winter cough.
" " TINCTURE OF	20 to 40 drops ...	... ..	Water, 2 or 3 times a day	Ditto	Ditto.
" " TINCTURE OF	40 to 80 drops ...	... ..	Ditto	Ditto	Ditto.
ÆTHEREAL	1 to 2 tea spnfs.	... ..	Ditto	Stomachic ...	Nervous irritation.
LUPULIN, TINCTURE OF	20 to 40 grains ...	5 to 10 grains ...	Mint water ...	Absorbent ...	Heartburn and acidity.
MAGNESIA	Ditto	Ditto	Ditto	Ditto	Ditto.
" CALCINED	4 to 8 drachms ...	1 to 2 drachms ...	Ditto, or tea ...	Gentle aperient ...	Costiveness.
MERCURIAL PILL	5 to 12 grains ...	1 to 4 grains ...	In pills	Alterative ...	Bilious and liver complaints, &c.
MERCURY, WITH CHALK	5 to 10 grains ...	2 to 4 grains ...	Honey, twice a day ...	Ditto	Scald head, cutaneous eruptions.
MUSK	5 to 20 grains ...	2 to 5 grains ...	Mint water, 3 times a day	Antispasmodic ...	Convulsions, lock jaw, &c.
MURIATIC ACID, DILUTE	10 to 15 drops ...	3 to 6 drops ...	Water, twice a day ...	Alterative ...	Scrofula, cutaneous eruptions.
MYRRH, TINCTURE OF	1 to 2 drachms ...	10 to 15 drops ...	Ditto, 2 or 3 times a day	Deobstruent ...	Chlorosis, weakness.
NITRE POWDER, PURIFIED	5 to 20 grains ...	2 to 4 grains ...	Barley water, ditto ...	Diuretic & febrifuge	Siranguary fever.
" SWEET SPIRIT OF	20 to 60 drops ...	6 to 12 drops ...	Ditto	Ditto	Ditto.
NITRIC ACID, DILUTE	10 to 15 drops ...	4 to 6 drops ...	Water	Tonic	Diabetes, scrofula.
NUTRIO, SPIRIT OF	4 to 6 drachms ...	1 to 2 drachms ...	Ditto	Carminative ...	Flatulence, cramp in stomach.
OPHATE CONFECTION	10 to 20 grains ...	3 to 6 grains ...	Bolus	Ditto and opiate	Purging, colic, cholera.
OPIMUM, PURIFIED	$\frac{1}{2}$ to 1 grain ...	... ..	Pill	Anodyne	Restlessness, acute pains, asthma.
" TINCTURE OF	10 to 20 drops ...	1 to 5 drops ...	Mint water ...	Ditto	Ditto.
PAREGORIC ELIXIR	10 to 2 drachms ...	10 to 20 drops ...	Barley water, ditto ...	Anodyne	Cough, asthma, cramp.
PEPPERMINT, ESSENCE OF	3 to 12 drops ...	1 to 2 drops ...	Water	Carminative ...	Colicky pains, flatulency, &c.
POPPIES (WHITE), EXTRACT OF ..	5 to 10 grains ...	1 to 2 grains ...	Pill	Anodyne	Spasms, acute pain, cough.
" SYRUP OF	2 to 4 drachms ...	1 tea spoonful ...	Water	Ditto	Ditto.
QUASSIA, TINCTURE OF	30 to 60 drops ...	10 to 12 drops ...	Ginger tea, 2 or 3 times a day	Stomachic ...	Indigestion, flatulency.
RHATANY POWDER	10 to 40 grains ...	5 to 8 grains ...	Mint water, every 3 hours	Tonic	Ague, diabetes.
" TINCTURE OF	2 to 4 drachms ...	20 to 30 drops ...	Ditto, 3 times a day	Stomachic ...	Indigestion, relaxation.
RHUBARB POWDER	20 to 30 grains ...	5 to 8 grains ...	Mint water ...	Aperient	Costiveness.
" TINCTURE OF	4 to 8 drachms ...	1 to 2 drachms ...	Ditto	Ditto & carminative	Ditto, colic, &c.
ROCHELLE SALT	6 to 12 drachms ...	2 to 4 drachms ...	Ditto	Aperient	Costiveness.
ROSES, INFUSION OF	1 to 2 ounces ...	3 to 4 drachms ...	2 or 3 times a day ...	Stomachic, astringent	Indigestion, flooding, &c.
" CONSERVE OF	1 to 2 drachms ...	$\frac{1}{2}$ drachm ...	Ditto	Ditto and pectoral	Cough.
SAFFRON, TINCTURE OF	Ditto	30 to 40 drops ...	Water	Cordial	Measles.

MEDICINES.	DOSES.		Proper vehicle and periods of repetition.	Properties or Effects.	DISEASES PROPER FOR.
	Adults.	Children from 2 to 4 years.			
TINCTURE	2 to 4 drachms...	40 to 60 drops ...	Water, 3 times a day ...	Stomachic...	Indigestion, weakness, &c.
" HUXHAM'S DITTO ...	Ditto ...	Ditto ...	Ditto ditto ...	Ditto and cordial ...	Ditto
" BENZON, COMPOUND	20 to 40 drops ...	6 to 8 drops ...	Honey... ..	Stimulant ...	Asthma, chronic cough.
" BUCHU LEAVES	2 to 3 tea spoils.	... ..	Decoction of marshmallow root, 3 times a day ...	Anti-irritant, &c. ...	Irritation of the bladder, &c.
" CARDAMOMS	2 to 3 drachms...	1 to 1 drachm ...	Chamomile tea ...	Stomachic... ..	Sea sickness.
" " COMP.	2 to 4 drachms...	Ditto ...	Water... ..	Ditto ...	Flatulence, &c.
" CASCARILLA	1 to 3 drachms...	20 to 30 drops ...	Mint water, 3 times a day ...	Astringent stomachic	Purgings, relaxation of bowels.
" CATECHU	1 to 3 drachms...	10 to 20 drops ...	Ditto ditto ...	Stomachic... ..	Indigestion, weakness, &c.
" CALUMBA	1 to 3 drachms...	Ditto ...	Water, 3 times a day ...	Ditto ...	Ditto flatulence.
" GENTIAN, COMPOUND	1 to 2 drachms...	12 to 30 drops ...	Honey, twice a day...	Stimulant ...	Rheumatism and cutaneous eruptions.
" GUAIACUM GUM.....	20 to 60 drops ...	5 to 6 drops ...	Water, ditto ...	Ditto and sudorific	Rheumatism.
" DITTO, VOLATILE	1 to 3 drachms...	... ..	Mint water ...	Anodyne ...	Spasms, acute pains, &c.
" HENBANE	20 to 60 drops ...	3 to 5 drops ...	Water, 3 times a day ...	Stomachic... ..	Nervous irritability.
" HOPS	1 to 2 drachms...	... ..	Ditto, twice a day ...	Tonic ...	Rickets, worms, chlorosis.
" IRON, MUILATED ...	10 to 30 drops ...	3 to 6 drops ...	Mint water ...	Brisk purgative	Obstinate costiveness.
" JALAP	2 to 4 drachms...	1 drachm ...	Water... ..	Cordial ...	Lowness of spirits, fainting.
" LAVENDER, COMP. ...	30 to 80 drops ...	10 to 20 drops ...	Water, 2 or 3 times a day ...	Strengthening ...	Chlorosis, debility, &c.
" MYRRH	1 to 2 drachms...	1 to 5 drops ...	Mint water ...	Anodyne ...	Spasms, acute pains, &c.
" OPIUM	10 to 70 drops ...	1 to 5 drops ...	Water, 3 times a day ...	Stomachic... ..	Indigestion, relaxation.
" RHATANY ROOT.....	2 to 4 drachms...	20 to 30 drops ...	Honey, twice a day ...	Diuretic, &c. ...	Gravel, rheumatism.
" TURPENTINE, VENICE	10 to 15 grains ...	... ..	Ditto ditto ...	Ditto ...	Ditto
" " SPIRIT OF	15 to 20 drops ...	... ..	Mint water, ditto ...	Anti-nervous ...	Nervous headache, &c.
" VALERIAN POWDER	20 to 30 grains ...	6 to 8 grains ...	Water, 3 times a day ...	Ditto ...	Ditto.
" " TINCTURE OF	1 to 3 drachms...	10 to 40 drops ...	Ditto ...	Ditto ...	Lowness of spirits, &c.
" VOLATILE, TINCTURE OF	40 to 80 drops ...	10 to 15 drops ...	Chamomile tea, twice a day ...	Stomachic... ..	Indigestion, flatulence, relaxation.
" VIBROL, ELIXIR	10 to 20 drops ...	3 to 5 drops ...	Water... ..	Emetic ...	Hooping-cough, measles.
" WINE, ANTIMONIAL	2 to 8 drachms...	1 to 2 drachms...	Mint water... ..	Diuretic ...	Rheumatism and gout.
" OF COLCHICUM SEEDS ...	20 to 60 drops ...	... ..	Mint water, twice a day ...	Emetic ...	Measles.
" " IPECACUANHA.....	4 to 8 drachms...	2 to 3 drachms...	Water... ..	Tonic ...	Debility, chlorosis.
" " STEEL	3 to 6 drachms...	1 to 2 drachms...	Mint water, twice a day ...	... ..	... ..

The dose of each Article should be increased or diminished, according to the Age and Strength of the patient, by the following Rule:—Two-thirds of the dose from the age of 14 to 16; one-half from 7 to 10; one-third from 4 to 6; one-fourth to one of three years; one-eighth to one of a year old. It should be borne in mind that OPiATES affect Children more than Adults; but Children bear larger doses of Calomel, in proportion to Adults.

DRUGS, CHEMICALS,

AND VARIOUS MEDICINAL PREPARATIONS.

ACIDS have all some medicinal power. They are opposed to alkalis in their chemical nature, neutralising them, and uniting with them to form salts, and also with the various metals. There are mineral and vegetable acids. The mineral ones have more or less tonic influence, which seems to depend on change produced in the blood. Vegetable acids have a more complicated and varied action. Among them are included two of our most potent poisons—viz., prussic acid and oxalic acid, the latter of which is not used for medicinal purposes.

ACID, ACETIC, STRONG (PYROLIGNEOUS ACID)—is sometimes made use of to destroy warts and corns; it should be carefully applied with a camel-hair brush. Its pungent and refreshing odour is made available in what is termed aromatic vinegar. Diluted in due proportion, one part to seven of distilled water, it may be substituted for distilled vinegar.

ACID, CITRIC (ACIDUM CITRICUM)—is the acid of lemon-juice in a solid and concentrated form; dissolved in the proportion of one ounce and a quarter in the wine pint of water, it will serve as a substitute for it: 15 grs. of the acid, dissolved in a little water, added to 20 grs. of bicarbonate of potash, also dissolved in a wineglassful of water, and flavoured with a little syrup of orange-peel, make an agreeable effervescent saline draught, which may be taken frequently in febrile complaints, or to assuage thirst.

ACID, HYDROCHLORIC OR MURIATIC, OR SPIRIT OF SALT (ACIDUM HYDROCHLORICUM); ACID, NITRIC (A. NITRICUM)—The two acids combined and much diluted form an useful addition to various tonic bitter infusions, such as those of bark, cascarilla, and gentian, and may thus be used in cases of general debility (*see* F. 6).

ACID, HYDROCYANIC (PRUSSIC ACID)—is a powerful sedative, and requires great care in its administration, for fear of any poisonous result. The dose of the pharmacopœial acid is from 3 to 5 drops; it is much weaker than what is termed Scheele's acid. This medicine is sometimes useful in irritation of the lungs, painful affections of the stomach, disease of the heart, &c. (*see* F. 115).

ACID, DILUTED SULPHURIC (A. SULPHURICUM DILUTUM)—a serviceable tonic in states of relaxation and debility. It may be given in doses of from 10 to 40 drops, with a little water or some bitter infusion. It is often advantageously combined with quinine (F. 162, 163), and its addition to Epsom or Glauber's salts, when given in small doses, renders them less lowering, without interfering with their aperient action (F. 107). It has of late been strongly recommended for diarrhœa, to be given in doses of 25 drops, in a little peppermint water, every two hours, and in some forms of the disease it certainly answers. Elixir of vitriol is similar in nature and point of strength to dilute sulphuric acid, but somewhat aromatic.

ACID, TARTARIC (A. TARTARIOUM)—used as a substitute for citric acid, especially in the formation of effervescent powders, which may be thus prepared:—Carbonate of soda, 3 drms.; white sugar, 6 drms.; essence of lemon, 10 drops. Rub well together in a mortar, and divide into six powders, each to be folded in blue paper; then take tartaric acid $2\frac{1}{2}$ drms., and divide into six parts, each to be folded in white paper. When required for use, one of the alkaline powders to be well dissolved in two-thirds of a tumbler of spring water, and then the acid one added.

ACONITE—MONKSHOOD (ACONITUM NAPELLUS)—has much power in diminishing the action of the sensitive nerves, and is therefore used for the purpose of relieving nervous pain. It is a dangerous internal medicine, but very serviceable used externally. There is an extract, and a strong tincture (*see* F. 20).

ÆTHER, SULPHURIC—is insoluble in water, and therefore not very available for internal administration. It is, however, a powerful anodyne, and may be given in doses of 20 drops, on a lump of sugar, in colic, spasms, or nervous affections. Externally applied, it will do good in nervous headache, neuralgia, toothache, gout, and rheumatism; it will also afford relief in cases of inflamed burn, where the skin is unbroken.

ÆTHER, COMPOUND SPIRIT OF—HOFFMAN'S ANODYNE (SPIRITUS ÆTHERIS COMPOSITUS)—a mild and convenient form of æthereal administration. By allaying nervous excitement, it often exerts great anodyne power; such is the case in spasm, colic, convulsions, hysterics, neuralgia. The dose is from 40 drops to a small teaspoonful, to be taken in a little water (*see* F. 22, 23, 126).

ÆTHER, CHLORIC, SPIRIT OF—has a somewhat similar effect to sulphuric æther, but more powerfully anodyne, and more agreeable to the taste. Dose, from 10 to 30 drops in a little water (*see* F. 15, 25, 153, 154).

ALOES.—There are two kinds, the Barbadoes and the socotrine, the latter of which is most commonly used. Aloes is a cathartic medicine, supposed to act chiefly on the large intestines. Its influence is not confined thereto, for when given in solution it undoubtedly acts through the entire tract of the alimentary canal, and even has a special tonic and stimulant effect on the stomach and liver. The full dose of aloes is from 5 to 10 grs., and it acts as a laxative in small doses of 1 or 2 grs. This medicine is apt to gripe, and occasion irritation, and it is therefore most generally given in combination with other medicines. It is the commonest ingredient in cathartic pills, and in that respect is of great utility, being comprised in a small bulk, while at the same time the nauseous flavour is avoided. Aloes acts slowly, and, as an aperient, is commonly taken at bed-time, but as a laxative and stomachic, shortly before meal-time, when it promotes appetite and digestion. It should be avoided when there are piles or irritation of the rectum. Aloetic preparations have an exciting influence on the womb, and therefore their use requires much caution during pregnancy, especially in the latter stages, and care must also be taken that their administration does not unduly interfere with the menstrual period. But when the uterine function is obstructed by inactivity of the system, aloes may often be administered with advantage, especially when the bowels are constipated, and its combination with iron is desirable in cases of debility. In inflammatory cases the use of aloes should be avoided.

The **EXTRACT OF ALOES** is milder than the aloes itself, consisting of that

part which is soluble in water, while the resinous or insoluble part is rejected. The COMPOUND PILL OF ALOES consists of two parts aloes, one part extract of gentian, and oil of caraway, combined with a sufficiency of treacle. The PILL OF ALOES AND MYRRH is composed of one-third aloes, combined with myrrh, saffron, and soft soap. The PILL OF ALOES AND SOAP consists of equal parts of extract of aloes, soft soap, and extract of liquorice. The COMPOUND COLOCYNTH PILL is one-half extract of aloes, in combination with extract of colocynth, scammony, cardamoms, and soap; there is no better ordinary cathartic. The COMPOUND RHUBARB PILL is a mild aloetic form, consisting nearly one-third of aloes, combined with rhubarb, myrrh, soap, and oil of caraway. The COMPOUND POWDER OF ALOES consists one-half of aloes, combined with guaiacum and compound cinnamon powder. The COMPOUND DECOCTION OF ALOES is an excellent tonic aperient, and is composed of aloes, myrrh, liquorice, saffron, and carbonate of potash, with compound tincture of cardamoms; there are about 3 grs. of aloes in the ounce. The TINCTURE OF ALOES is a weak spirituous solution of aloes with liquorice; there are 12 grs. to the ounce. The COMPOUND TINCTURE OF ALOES is a powerful stimulant; it is a strong spirituous solution, and contains 40 grs. of aloes in the ounce, combined with myrrh and saffron; alone this is unfit for administration, but in the proportion of about a drachm it is excellent as a warm stimulating adjunct to an ordinary black draught, or it may be taken in bitter infusion, such as of gentian or chamomile. For various aloetic combinations, *see* F. 30, 32, 34, 35, 67, 129, 143, &c.

ALUM (ALUMEN)—a powerful astringent, serviceable in restraining hæmorrhage. If used externally, the burnt alum may be applied in the form of a powder. If given internally, the common alum may be given in doses of from 5 to 20 grs. every hour or two until the bleeding abates. It may be given in spitting of blood, vomiting of blood, bleeding from the bowels, or uterine hæmorrhage (*see* F. 54). As an astringent it may also be used in some forms of ophthalmia, relaxed sore-throat, ulcers which discharge largely, &c. (*see* F. 59, 60, 61.)

AMMONIA, SOLUTION OF ACETATE OF—SPIRIT OF MINDERERUS—an excellent saline and diaphoretic, especially when its action is assisted by diluents and warmth. It has no exciting effect, and is useful in colds, fevers, and most kinds of inflammation. The dose is from $\frac{1}{2}$ ounce to 1 oz. (*see* F. 77, 78, 108, 111). It makes a good external cooling application (*see* F. 124).

AMMONIA, SESQUICARBONATE OR CARBONATE OF—is employed as smelling salts. Used internally, it is stimulant, and antacid in its action. From 5 to 10 grs. may be taken for a dose, dissolved in camphor mixture or any distilled water. It is beneficial in any kind of nervous debility, also in flatulency, heartburn, and spasmodic states of the stomach. In low gouty states of system it is very beneficial, especially in combination with small doses of ginger (*see* F. 128, 144, 150, 159). With lemon-juice it forms an agreeable effervescing saline, exceedingly serviceable in states of low feverish excitement, and it will often allay nausea materially (*see* F. 104). As an external application, 2 drms. of carbonate of ammonia, dissolved in 1 oz. of water, mixed with 3 ozs. of olive oil, is ordered in the Pharmacopœia.

AMMONIA, HYDROCHLORATE OR MURIATE OF—SAL AMMONIAC—is but little used as an internal medicine. To indolent swellings, bruises, and sprains, it is often a very serviceable external application (*see* F. 138).

AMMONIA, WATER OF (LIQUOR AMMONIÆ)—a powerful stimulant, only fit for external application. It will cause much irritation of the skin, and even produce a blistering effect if sufficiently strong. It is much used in warm countries to counteract the bites of venomous reptiles, and it is also decidedly beneficial in relieving the stings of bees and wasps; it should be applied on a small piece of lint or linen rag. Water of ammonia is a common ingredient in stimulant liniments and embrocations (*see* F. 135, 136). The pharmacopœial liniment of ammonia consists of 1 oz. of the water to 2 ozs. of the olive oil. The compound camphor liniment also owes its strength, in a great measure, to the ammonia contained in it.

AMMONIACUM—a gum resin which exerts a stimulant action on the mucous membrane, especially that lining the respiratory organs. Given in doses of from 5 to 20 grs., in the form of pills or solution, in asthma or chronic coughs, when it appears to have influence in causing the separation of the thick viscid mucus collected in the windpipe and bronchial tubes. Gum ammoniac is said to have some power also in promoting uterine secretion. The ammoniacum mixture of the Pharmacopœia contains 15 grains to the oz. (*see* F. 95); it also constitutes one-fourth part of ipecacuanha and squill pill, and of the compound squill pill. Externally applied, ammoniacum is somewhat of a stimulant; it is an ingredient in the Pharmacopœia ammoniacum plaster, and ammoniacum and mercury plaster.

ANISEED—relieves flatulence and griping, especially in infants. The distilled water may be made use of, and in F. 154 the essential oil is an efficient ingredient.

ANTIMONIAL POWDER (PULVIS ANTIMONII COMPOSITUS)—is similar to the celebrated James's powder, which is more certain in its effect, and may always be substituted with advantage. It is of lowering nature, and by proper administration it assumes a special tendency to relax the skin and excite perspiration; it is therefore useful in fever, inflammatory colds, inflammation of the lungs, and also other diseases, such as measles, small-pox, scarlatina, more especially when the stomach and bowels have first been duly evacuated. During the administration of the medicine, the patient should remain in bed, between blankets rather than sheets, and no solid food having been taken for some hours previously, warm diluents, such as whey, gruel, tea, or barley-water, should be drunk freely. Antimonial powder may be given in doses of from 3 to 6 grs. every four or six hours in sugar or honey, or according to F. 75. The administration of a dose, either alone or in combination at bed-time, is often exceedingly beneficial in colds and sore throats (*see* F. 4, 33, 37, 80). In some persons James's or antimonial powder will occasion vomiting, and in others gentle purgation instead of perspiration, but without being less efficacious.

POTASSIO-TARTRATE OF ANTIMONY — TARTARIZED ANTIMONY — TARTAR EMETIC—of the same nature as antimonial powder, but more powerful. It is more soluble, and exerts an irritating influence on the stomach, and this is partly the cause of its exciting vomiting readily, with which object it is very commonly administered; for this purpose from 1 to 3 grs. may be given to the adult, dissolved in a little water, or, what is better, 3 grs. may be dissolved in a quarter-pint of water, and one-fourth-part be taken every ten minutes till sickness ensues. Tartar emetic may be given in inflammation of the lungs and other acute diseases, where its sedative antiphlogistic effect is desirable, in doses of from one-sixth to half a grain at intervals of three or four hours,

so as to maintain a constant nausea, and this with the best effect. Externally applied, tartarized antimony is a powerful counter-irritant, and is often exceedingly useful in deep-seated disease, applied as an ointment (*see* F. 140).

ANTIMONIAL WINE is merely a solution of tartarized antimony in sherry wine, and contains 2 grs. in 1 oz. It is a convenient form for the administration of the medicine in small doses (*see* F. 87, 76, 78, 110, 111, 119, 122). As an emetic for young children, from half a teaspoonful to a teaspoonful of antimonial wine may be given every five or ten minutes until it produces the desired effect.

ANTIMONY, OXYSULPHURET OF—RED SULPHURET OF ANTIMONY—a useful alterative form which enters into the composition of the compound calomel pill. The dose is from 1 to 5 grs.

ARNICA MONTANA—LEOPARD'S BANE—a very useful medicament in cases of bruises, strains, or any superficial inflammation. It should be used as a lotion, made by adding $\frac{1}{2}$ oz. or 1 oz. of the tincture to a pint of spring water. The tincture is made by infusing 2 ozs. of the dry arnica flowers in a pint of proof spirit for fourteen days.

AROMATIC CONFECTION (CONFECTIO AROMATICA)—a combination of various spices with chalk and sugar, a useful and agreeable medicine where the stomach requires a carminative and stimulant, as in relaxation of the bowels, or where there is flatulency, acidity, or spasmodic pain. It may be given in doses of 25 grs. to 1 oz., more especially in combination (*see* F. 151, 152).

ARSENIC (ARSENICUM)—a powerful medicine, useful in neuralgic affections, and in skin diseases, especially those of sealy character: in the first form of disease, arsenic often serves as a substitute for bark or quinine. It is usually administered in the Pharmacopœial form of the solution of arsenite of potash (Fowler's solution), in doses of from 3 to 6 drops two or three times a day, to be taken two hours after meal-time.

ASSAFŒTIDA—stimulant and anti-spasmodic, useful in hysteria and other nervous and spasmodic complaints; very serviceable in colic, flatulency, and some kinds of asthma. Assafœtida is usually given in combination (*see* F. 23, 34, 98). The tincture contains 1 part to 8 of rectified spirit of wine; the foetid spirit of ammonia, 1 part to twelve. Assafœtida is often administered in the shape of an enema (*see* F. 24).

BALSAM, FRIAR'S—COMPOUND TINCTURE OF BENJAMIN—is an excellent medicine, in doses of from 30 drops to a teaspoonful, for coughs attended with copious expectoration; it is well combined with the mixture of ammoniacum. It is a most useful external application for cuts and wounds of slight description, applied over the surface by soaking a bit of lint in it, which then can be kept applied with bandage.

BARK, PERUVIAN—CINCHONA—one of the most valuable tonics. In low states of the system, especially where there is relaxation and nervous weakness. Bark is commonly our best remedy in convalescence after fever, and many inflammatory diseases. In many complaints of debility, the use of bark is often available from the outset; in ague and various nervous affections, for example. Before the administration of this medicine it is always desirable to effect a thorough cleansing of the stomach and bowels with mild aperients. Quinine is the chief active principle of bark, and, prepared as a sulphate, is

now very generally substituted for it. It has the advantage of much smaller bulk, and being divested of the inert woody matter, it acts with much greater potency and readiness, while at the same time it is generally much more agreeable to the stomach; 1 gr. of quinine may be considered equal to 30 grs. of bark. When astringency as well as tonic influence is desirable, bark is still preferable to quinine. Powder of bark may be given in doses of from 20 grs. to 1 drm. every six or eight hours, but in ague cases the intervals should be much shorter during the absence of the paroxysms. According to the Pharmacopœia, the infusion is to be made by pouring a pint of boiling water on 1 oz. of coarsely powdered bark, and letting it stand for two hours before straining; and the decoction by boiling 10 drms. of coarsely powdered bark in a pint of water for ten minutes, and straining while hot; these preparations sometimes agree better than the bark in substance. The simple tincture of bark contains one part in five. The compound tincture is noticed among other tinctures. The extract of bark is a good form, and may be given in doses of 5 to 10 grs., either as pills or in solution. Various combinations in which bark may be given are exemplified in F. 159, 160, 161, also *see* Quinine.

BELLADONNA—DEADLY NIGHTSHADE—a dangerous and uncertain medicine for internal administration. Externally it is useful to effect the dilatation of the pupil, which greatly facilitates the examination of the interior of the eye; for this purpose the extract can be smeared over the eyebrow. The extract also enters into the composition of the belladonna plaster, which may often be beneficially applied in cases of rheumatic or neuralgic pain; for the same purpose an embrocation may be prepared from the tincture by combining it with an equal proportion of soap liniment.

BISMUTH, NITRATE AND CARBONATE OF—possess an alterative and sedative power, which sometimes does good in cases of dyspepsia, and where the bowels are in an irritable state. The dose is from 3 to 6 grs. twice or three times a day, taken as a powder, or made into pills.

BLUE PILL (PILULA HYDRARGYRI)—a mild and efficacious mercurial preparation of very general utility. It produces much less irritation than calomel, and is not more than one-fourth the strength. It promotes the action of the liver and general secretion, and in combination materially assists the action of purgatives. It is very serviceable in bilious complaints, skin diseases, and various constitutional affections. When required to produce mild alterative action, from 3 to 6 grains may be taken at bed-time as often as requisite, and followed by an aperient in the morning if desirable, such as F. 44 or 68. Combinations of blue pill with other medicines are exemplified in F. 1, 2, 36, 37, 38, 158.

BORAX—appears to exert a stimulating and alterative influence on mucous membranes, and is useful as a medicine for children especially (*see* F. 14). It is much more extensively employed on the Continent than in England. It may be given in cases of irritation of the alimentary canal, attended with aphthous or thrushy ulceration of the mouth and throat, but it is more commonly used in such cases as a mere local application; it is also available in any superficial external ulceration (*see* F. 134). A lotion composed of 2 drms. of borax and 6 ozs. of rose water is a most useful application for chapped hands, chapped nipples, and where there is much irritation of the skin of the head tending to the formation of scurf.

BROOM (SCOPARIUM)—an excellent diuretic, especially in combination with other medicines, as in the compound decoction of broom of the Pharmacopœia, which contains broom-tops, juniper berries, and dandelion root, bruised, of each $\frac{1}{2}$ an oz., boiled in $1\frac{1}{2}$ pint of water for twenty minutes, and then strained. A wineglassful taken three times a day will be found very useful in dropsical cases where the kidneys are inert, or as in F. 81.

BUCHU LEAVES (DIOSMA CRENATA)—has a peculiar stimulating influence over the kidneys and bladder. It promotes healthy secretion, and at the same time gives tone. The infusion is the best form of administration, and may be prepared by letting a pint of boiling water stand for four hours on 1 oz. of the leaves. The dose is from half a wineglassful to a wineglassful, taken three times a day, and, according to circumstances, it may be combined with carbonate of soda, solution of potash, the acid drops, F. 6, or the tincture of the chloride of iron.

BURGUNDY PITCH.—This forms the common warm plaster, but the compound pitch plaster of the Pharmacopœia is preferable. It produces a slight irritation of the skin, but its chief medicinal efficacy is doubtless owing to its impeding the ordinary cutaneous action, and thereby occasioning a kind of revulsive influence.

CALOMEL (HYDRARGYRI CHLORIDUM).—This is one of the commonest medicines, and one of the most powerful of the mercurial preparations. It is a very useful medicine, but one which is liable to great abuse. It is a peculiar stimulant, promoting all secretion, especially that of the liver, which causes it to be designated *cholagogue* or bile compeller. This action of calomel on the liver is almost its earliest and most marked action when given alone, and by exciting the flow of bile it may occasion purgation; it also partly has that effect from irritating the lining membrane of the stomach and intestines. To produce effectual purgative action, and at the same time secretion from the liver, calomel should be given in combination with a medicine which is really cathartic—jalap, rhubarb, or scammony (*see* F. 63, 64, 65, 74)—or with the compound colocynth pill, as in F. 66, or a short time previous to an ordinary black draught (*see* F. 68), and of all these it much enhances the effect. If it be desirable that the calomel should produce a more alterative and searching effect on the system, then it will be preferable to give it overnight, and a sufficient aperient the following morning. The dose of calomel is from 1 to 5 grs. in an ordinary way. Calomel is said to be borne by young children in much larger doses than adults, but that is only because in them it excites purgative action more readily; to suppose that it can be given to them largely and frequently with impunity, is a most pernicious error.

When calomel is given so as to act constitutionally, it exerts a special power, having a subtle influence on the blood and over the vital processes of organization, which renders it capable of counteracting many of the most violent and deep-seated diseases. It aids and modifies the action of other powerful medicines; combined with antimonials, for example, it much assists their lowering febrifuge action. F. 3, 4, 67, 85, afford instances of the manner of its administration. The compound calomel pill of the Pharmacopœia, commonly known as Plummer's pill, is an excellent alterative form; each pill contains calomel and oxysulphuret of antimony, of each rather less than 1 gr., combined with guaiacum and treacle. (*See* MERCURY.)

CALUMBA ROOT.—This is a simple and excellent bitter medicine, containing no astringency, often more agreeable to weak and delicate stomachs than any

other. It may be used in cases of indigestion and loss of appetite. Where there is much nausea and irritability of stomach, especially when occurring during pregnancy, it is exceedingly useful. Calumba may be combined with aromatics, alkalis, or mineral acids, according to circumstances; it may also be given with the tincture of chloride of iron. The infusion is the best form for administration; it is prepared by digesting 5 drms. of the calumba bruised in a pint of boiling water for two hours and then straining; the dose is about 1 oz., taken two or three times a day (*see* F. 146, 153, 164). The tincture is prepared by digesting $1\frac{1}{2}$ oz. of the root bruised in a pint of proof spirit for the space of seven days.

CAMPHOR—a stimulant medicine of rather uncertain action. It is, however, a good remedy for spasmodic and low nervous states. It may be beneficially combined with sedatives and sudorifics, serving to augment their power: taken in conjunction with purgatives it prevents their griping and distressing effects. In cases of colic or diarrhoea, and even at the commencement of cholera, camphor, in small doses and frequently repeated, often does much good; 10 drops of the spirit of camphor may be taken every ten minutes in a little sugar and water until relief is obtained. A good form in which camphor may be administered more largely is as follows: 24 grs. of camphor, 1 drm. of tincture of myrrh, 1 oz. of syrup of orange peel, 1 oz. of mucilage, 6 ozs. of cinnamon water; the camphor must be well rubbed down with the tincture of myrrh, and then the other ingredients added, the mucilage last; from a tablespoonful to a wineglassful for a dose. Combinations of camphor will be found in F. 4, 27, 32, 80, 99, &c. There are numerous pharmacopœial preparations into which camphor enters. **CAMPHOR MIXTURE** or **JULEP** may be prepared by the addition of $\frac{1}{2}$ oz. of spirit of camphor to a pint of soft water. **THE SPIRIT OF CAMPHOR** is made by dissolving 1 oz. of camphor in half a pint of rectified spirit of wine. In the **COMPOUND CAMPHOR TINCTURE** or **PAREGORIC**, camphor is combined with opium. For external application we have the **CAMPHOR LINIMENT**, which consists of 1 oz. of camphor dissolved in 4 ozs. of olive oil, forming a good stimulant application. **COMPOUND CAMPHOR LINIMENT**, which is a combination of spirit of camphor, with a strong solution of ammonia and oil of lavender, constituting a powerful stimulant and counter-irritant. The presence of camphor helps to render the soap liniment gently stimulating, and it materially increases the power of the liniment of turpentine and that of mercury.

CANELLA.—This has stimulating and tonic properties. It is said to obviate the griping action of aloes, but it is not much used. The dose of the powdered bark is from 10 grs. to $\frac{1}{2}$ drm.

CAPSICUM—CAYENNE.—A good stomachic stimulant in the form of powder, of which the dose is 1 or 2 grns., or it may be used in the form of tincture, which consists of 5 drms. of powdered capsicum macerated for eight days in a pint of proof spirit. A good stimulating gargle for ulcerated sore throat is formed by $\frac{1}{2}$ drm. tincture of capsicum, 2 drms. alum, and $5\frac{1}{2}$ ozs. infusion of roses.

CARAWAY SEEDS (SEMINA CARUI).—They are carminative and stimulant. They enter into the composition of several of the pharmacopœial preparations. There is a distilled water, also the essential oil, which is often used in making aperient pills, to prevent irritation and griping.

CASCARILLA.—A stomachic tonic, useful in many cases of dyspepsia, and where the stomach and bowels are in a state of debility. The infusion is made by letting a pint of boiling water stand for two hours on $1\frac{1}{2}$ oz. of cascarilla; dose, half a wineglassful three times a day (F. 150). The tincture is about double the strength of the infusion.

CASTOR OIL (OLEUM RICINI).—This is a very important aperient medicine. It generally evacuates the bowels speedily and with little irritation, and, therefore, is especially useful where it is desirable to avoid general and local excitement. Thus, therefore, it is well adapted for children and females during pregnancy. Castor oil does not, however, always agree; it will sometimes gripe and often occasion nausea, but in combination with an aromatic or stimulant will usually obviate these inconveniences. It may, therefore, be taken in some distilled water, such as peppermint or cinnamon, or floating in half a wineglassful of water, with a little brandy poured upon it, or according to F. 41. Occasionally there is much variation in the dose required; a very small quantity will act powerfully on some individuals, whereas in others large doses may be quite ineffectual. As a general rule, if aperient action be not obtained within four or six hours after the administration of castor oil, it should be repeated, or some other purgative should be resorted to. In cases of constipation, taking castor oil every morning in a dose just sufficient to produce effect, and gradually diminished, will often restore the natural action. As a general rule, castor oil is always a safe medicine to resort to in case of obstruction of the bowels, and if it depend on indigestion or spasm, the oil may be given in full dose, combined with an equal quantity of compound tincture of rhubarb or tincture of senna. Again, in diarrhoea accompanied with spasm, originating apparently in indigestible diet, the administration of a moderate dose of castor oil is always a judicious measure; if there be any spasm, the compound tincture of rhubarb may be conjoined, and if there be great pain, 5 or 10 drops of laudanum may be added with advantage.

CATECHU.—This is a valuable astringent, chiefly useful in diarrhoea which depends on a relaxed state of the internal mucous membrane, where there is undue secretion without any marked inflammatory action. The infusion is made with 6 drms. to the pint, and the dose is from 2 drms. to 1 oz.; and the tincture is more than double the strength, and the dose is from $\frac{1}{2}$ drm. to 2 drms.; there is also cinnamon in both preparations. The tincture is usually combined with chalk mixture (*see* F. 114).

CHALK, PREPARED (CRETA PREPARATA).—Chalk is a peculiar form of carbonate of lime. As a medicine it is used to correct acidity in the stomach and bowels, and where diarrhoea is connected therewith, or with an undue flow of bile, chalk is serviceable as a remedy in combination with other medicines. When diarrhoea depends on indigestible food or a congested state of liver, chalk should not be given in the first instance at any rate. Chalk mixture may be made by mixing well together prepared chalk, white sugar, and powdered gum, of each 1 oz., and rubbing them up in a mortar with a pint of cinnamon water; this is stronger than the pharmacopœial preparation and preferable to it (*see* F. 114).

CHAMOMILE FLOWERS (ANTHEMIDIS FLORES).—These possess a stimulant influence on the stomach and bowels without much tonic action. They can be used in the form of infusion made of the strength of $\frac{1}{2}$ oz. to a pint of boiling water, which should be strained off after standing two hours; a large wineglassful may be taken two or three times a day. The warm infusion

drank freely will promote emetic and cathartic action. The essential oil of chamouile is a good adjunct to stomachic pills.

CHIRAYITA, OR CHIRETTA.—This herb is a good stomachic tonic, in high estimation in the East, and considered peculiarly efficient where the liver is disordered or inactive. It has the recommendation of many eminent physicians. The decoction is the best form, and may be prepared by boiling $\frac{1}{2}$ oz. in a pint of water for ten minutes; this should be suffered to get cold, and then strained. A small wineglassful is to be taken two or three times a day.

CINNAMON.—A warm and astringent aromatic, useful as an adjunct to more active medicines. It is valuable in the form of powder, the essential oil, and the distilled water. There are a tincture and a compound tincture in the Pharmacopœia, the latter of which taken in doses of a teaspoonful in a little water will serve to relieve griping and flatulency.

CHLORINE—CHLORIDES.—Chlorine is a gas which has a powerful purifying agency, and it is to it that the chlorides of lime, of soda, and of zinc owe their disinfecting properties. The chloride of zinc, from which the disinfecting solution of Sir W. Burnett is prepared, is far superior to the other two in many respects, and will no doubt in a great measure supersede them; no household ought to be without it. Being poisonous in its nature, however, chloride of soda or chloride of lime are preferable as a local application to foul sores, for ulcerated throat, and also for the recovery of tainted meat.

CLOVES (CARYOPHYLLUM).—A good aromatic. They may be used in combination with stomachics. There is an infusion and also an essential oil, which, in cathartic pills, is an excellent preventive of griping.

COD-LIVER OIL (OLEUM JECORIS ASELLI).—This is a medicine in high repute, and undoubtedly of considerable value as an alterative tonic, especially in consumption, unaccompanied with inflammatory symptoms. It may be administered in any form of scrofulous disease, and it may be resorted to when nutrition is defective, giving rise to constitutional debility. The administration of cod-liver oil requires care and judgment, or it will be apt to upset the stomach; it very commonly causes a congested state of liver. The dose for an adult is from a teaspoonful to a tablespoonful. Infants and young children take larger doses in proportion than adults, and this probably owing to the processes of growth being carried on in them with greater activity. Cod-liver oil may be taken in water, any bitter infusion, orange wine, or bitter beer; and in some instances other medicines may be advantageously combined with it.

COLCHICUM—MEADOW SAFFRON.—This is a powerful medicine, and when administered judiciously and with caution, it constitutes a very valuable remedy. It has a peculiar stimulating influence on the system in the first instance, which may occasion purgative or emetic action, and it may promote the secretion of the kidneys or cause perspiration; these effects may be obvious, or the action may be slow and almost imperceptible. The stimulation, however, soon passes into a depressing influence. The seeds and root are used in medicine. The tincture is a preparation of the former, made with 1 oz. of the colchicum seeds to 8 ozs. of proof spirit, and in the compound tincture, aromatic spirit of ammonia is substituted for the proof spirit. The wine of colchicum is made with the root in the proportion of 1 oz. to 5 ozs. of sherry wine. These preparations are of similar strength, and may be given in doses of from 10 to 40 drops. The acetous extract, which is made from the root, is a very excellent form, and may be admi-

nistered in doses of from 1 to 3 grs. In mild attacks of gout or rheumatism, small doses of any of the above preparations may be administered at intervals of four or six hours, and in cases of severe cold a dose or two may often be taken with advantage, but colicium is a medicine of that dangerous and uncertain character, that it should never be administered in large doses or for any long continuance, except under professional sanction (*see* F. 67, 112, 113).

COLOCYNTH—BITTER APPLE.—This medicine has an intensely bitter taste, and powerful cathartic action. The extract is an ingredient in the compound colocynth pill.

CONFECTIONS are combinations of medicinal substances with sugar:—

CONFECTION OF ALMONDS consists of sugar, sweet almonds, and gum, and forms an elegant basis for cough medicines.

CONFECTION OF CASSIA is a very mild aperient preparation, suitable for young children, in doses of about 1 drn.

CONFECTION OF PEPPER is a useful stimulant for administration when the lower bowels are in a weak and inactive state, and at the same time irritable; it may be advantageously combined with confection of senna, in the proportion of one-third part.

CONFECTION OF RUE is a good stimulant stomachic, which may be used in cases of colic or flatulency. The dose is about 1 drn.

CONFECTION OF SENNA is an agreeable laxative, consisting of senna in combination with fruits, spice, and sugar: dose, 1 to 2 drms. When the bowels are inactive from debility, without requiring much purgative stimulation, this is a very useful aperient, and in cases of piles, or any irritation of the lower bowel, the combination directed in F. 39 is exceedingly serviceable.

COPAIBA.—This medicine acts as a stimulant to the mucous membranes generally, and has a more special influence on the kidneys and urinary passages, which causes it to be much used in discharges therefrom. In cases of profuse secretion from the lungs or air-passages, especially in old people, copaiba is often useful, and where the lower bowels are in a relaxed and irritable condition, it is sometimes serviceable (*see* F. 130, 131, 132). Copaiba is a very nauseous medicine, which often renders it very objectionable, and offensive to the stomach. When that is the case, there is a solution prepared by many druggists which is less unpleasant, and may be substituted with advantage; it is also available in the form of CAPSULES, when it is contained in small membranous bags, so as to be swallowed without being tasted.

CREOSOTE—has been fashionable as a medicine, both for internal administration and external appliance; it is, however, now in less esteem, though certainly of considerable utility. It is sometimes useful in allaying excessive irritability of the stomach, and subduing violent vomiting. It has been strongly recommended for inhalation in pulmonary consumption. Creosote will relieve the pain of toothache, depending on a carious tooth; for this purpose, the cavity should be perfectly dried with a bit of cotton wool, and a drop of the creosote then introduced. An ointment, made by mixing 1 drn. creosote with 1 oz. of spermaceti ointment, is sometimes a successful application for ringworm, and other obstinate cutaneous complaints, and a lotion of 1 drn. creosote to 1 oz. water is often a beneficial application to unhealthy ulcers.

CROTON OIL.—This is one of our strongest purgatives, operating speedily. It is useful in violent constipation, or when strong evacuation and counteraction is desirable, as in affections of the head. It possesses the great advantage, in cases of insensibility, of being given in small bulk. The dose is from 1 to 3 drops; it may be given with powdered sugar, or made into a pill with bread-crumbs (*see* also F. 71, 72). Croton oil may be useful as a counter-irritant, in some deep-seated chronic affections (F. 139), but is not suitable where there is an irritable state of constitution.

CUBEË—a species of pepper, which exerts a stimulant effect on the mucous membranes, especially those of the urinary passages. It is commonly administered in discharges from the urethra. It may be given in the form of powder, in 30 or 40 gr. doses, twice or three times a day, or the essential oil, which comprises the chief virtue of the medicine, may be taken in doses of from 5 to 10 drops, with a little mucilage (*see* F. 131).

CUSPARIA, OR ANGUSTURA BARK—a valuable stomachic tonic in dyspepsia, with loss of appetite. The best form in which it can be taken is the infusion, which is to be made of the strength of 5 drms. to a pint: dose, a small wine-glassful three times a day.

DANDELION—TARAXACUM—appears to possess a stimulant alterative power, promoting the secretions of the liver and kidneys, and thereby affording much relief in some forms of indigestion. Its beneficial influence is only obtainable by persisting in its use a considerable length of time, when, however, it will often materially benefit deep-seated disorder of the digestive functions. The decoction is the best preparation; it is made by boiling down 4 oz. of the fresh root bruised, in $1\frac{1}{2}$ pint of water, until it is reduced to 1 pint, and then straining it. Half a pint of this decoction may be taken in the course of a day. There is an extract which may be taken in doses of 1 drm., but it is rarely as efficacious as the decoction; some of the inspissated and preserved juices are, however, very excellent preparations.

DIGITALIS—FOXGLOVE—a powerful medicine, which has great control and restraining influence over the heart's action. It is very useful in cases of diseased heart, where that organ is in an excited state, and where its power is not already depressed and interfered with (F. 115). It is also beneficial in some forms of dropsy, exerting a diuretic influence (F. 81, 82). The tincture is made with 2 ozs. of the dried leaves to one pint of proof spirit; the dose is from 5 to 30 drops every six hours, and it must be gradually increased until it produces its effect. The infusion is a much weaker preparation; it is usually given in dropsy, in doses of from 1 drm. to 1 oz.

DOVER'S POWDER (PULVIS IPECACUANHÆ COMPOSITUS).—This is an exceedingly useful preparation. It consists of opium, ipecacuanha, and sulphate of potash, the latter ingredient being chiefly of use in diluting and diffusing the more active components. 10 grs. of Dover's powder contains 1 gr. of opium and the same of ipecacuanha. The medicinal action of the opium is much modified in this combination; it assumes more the character of a general sedative. Dover's powder also acts on the skin, causing perspiration, and it does not so much tend to confine the bowels as opium *per se*, and therefore it is more available in febrile and inflammatory complaints, such as rheumatism and influenza. In this form, opium may also be more safely administered to children. For an adult the dose is 10 grs., which is best given at bedtime, but, as with all opiates, we should avoid its administration until aperient action has been duly premised (*see* F. 80, 109).

EPSOM SALT—SULPHATE OF MAGNESIA.—The commonest and one of the best of the saline purgatives; in doses of from 1 drin. to 1 oz. it is actively aperient, producing copious fluid evacuations. The action of this medicine is much increased when largely diluted, as, for example, 1 drin. dissolved in a half-pint of warm water. To produce the full aperient action of Epsom salt, it should be taken on an empty stomach. It is very useful in conjunction with other cathartics (*see* F. 68). When given in small doses as a saline laxative, it may be advantageously combined with dilute sulphuric acid, or in the compound infusion of rose-leaves, and also as per F. 46, 106, 166, according to circumstances.

ESSENCES OF PEPPERMINT, SPEARMINT, CINNAMON, PENNY-ROYAL, DILL, &c.—These may be prepared by adding 1 drin. of the respective essential oils to nearly 1 oz. of rectified spirit of wine. The addition of 2 drms. of any of these essences to a pint of cold boiled water forms a good substitute for any of the distilled waters that may be required.

EXTRACT OF CHAMOMILE.—A good stomachic, and it constitutes a good vehicle for quinine, sulphate of iron, aloes, and rhubarb.

EXTRACT OF GENTIAN.—The same may be said of this preparation as that of chamomile.

EXTRACT OF HEMLOCK.—This is the most convenient form of administering the medicine, more especially when it is combined with other sedatives. The dose is from 5 to 10 grs. three times a day (*see* F. 1, 96, 109, 118). The compound conium pill consists of 5 parts of the extract and 1 of ipecacuanha.

EXTRACT OF HENBANE.—Administered in the form of pills; dose, from 5 to 10 grs. It is a good vehicle for more powerful sedatives (*see* F. 16), and is an excellent corrigent of the griping tendency of aloes (*see* F. 12, 16, 27, 90, 98, 99, 147).

EXTRACT OF HOPS.—This may be used by itself, or in combination with any other sedative; dose, 5 to 10 grs.

EXTRACT OF JALAP.—A good ingredient for cathartic pills (F. 29). The hard extract also enters into the composition of the compound scammony powder.

EXTRACT OF LETTUCE.—A mild and agreeable narcotic preparation; dose, 5 to 10 grs.

EXTRACT OF LOGWOOD.—A mild but efficient astringent. It may be used in diarrhœa, in combination with chalk mixture, in doses of from 10 to 20 grs.

EXTRACT OF OPIUM.—This is somewhat purer and more concentrated than common opium; dose, $\frac{1}{2}$ gr. to 1 gr.

EXTRACT OF OXGALL.—A mild stimulating aperient, useful where there is want of digestive tone, and a deficient state of the biliary secretion. It can be borne by the most delicate and irritable stomachs in the form of pills; dose, 5 to 20 grs.

EXTRACT OF POPPIES.—A mild anodyne and narcotic, having the character of opium in a minor degree.

EXTRACT OF RHUBARB.—An excellent preparation of the medicine, useful in

combination as a stomachic and aperient; by itself, the dose is from 5 to 10 grs. (*see* 29, 31).

FERN, MALE (FILEX-MAS).—A remedy for tape-worm. The dose of the powdered root is from 2 drms., of the oil from 15 to 20 drops, taken at bed-time, and repeated again in the morning; it should be taken on an empty stomach, and be preceded by a dose of castor-oil, which may be repeated after the second dose of fern, if requisite.

GALL NUTS (GALLÆ).—These have considerable astringent power, but are not much used in medicine. The form of ointment, made by mixing 1 drm. of powdered galls and 15 grs. of extract of opium with 1 oz. of lard, is a common application for piles and protrusion of the anus. The decoction, made by boiling $\frac{1}{2}$ oz. of powdered galls in a quart of water, for a quarter-hour, may also be used as a fomentation in similar cases, and it may be beneficially used in cases of falling-down of the womb, and chronic female discharges.

GAMBOGE.—This is a powerful drastic cathartic. It occasions much irritation when given alone, but may be advantageously combined with other purgatives, when strong evacuant action is desirable, as in dropsy. The compound gamboge pill of the Pharmacopœia is an excellent form. Each pill contains gamboge 1 gr., aloes $1\frac{1}{2}$ gr., ginger $\frac{1}{2}$ gr., and soap 2 grs.; the addition of $\frac{1}{2}$ gr. of calomel to each pill greatly increases its power.

GENTIAN.—This is a common and valuable stomachic tonic, creating appetite and promoting digestion, without causing excitement of the general system. Occasionally, however, it disagrees with the stomach. It is very useful in convalescence from acute disease, and in low states of debility it often agrees well, even if there be much nervous irritability; thus it is very serviceable in atonic gout, and it is useful in dyspepsia. In the Pharmacopœia we have a compound infusion, which is prepared by pouring a pint of boiling water on $\frac{1}{4}$ oz. of gentian (sliced), $\frac{1}{4}$ oz. of dried orange-peel, and $\frac{1}{2}$ oz. of fresh lemon-peel: this should stand two hours, and then be strained. It may be taken in doses of from half a wineglassful to a wineglassful twice a day, between meal-times. The compound tincture of gentian may be taken in doses of one or two teaspoonfuls in a little water (*see* F. 47, 128, 150).

GINGER (ZINGIBER).—A valuable carminative and stomachic, in which respect it is often a valuable adjunct to tonics and stimulants, allaying flatulency, and counteracting spasmodic irritation. Ginger tea, made by infusing $\frac{1}{4}$ oz. of bruised ginger in a pint of boiling water, is often serviceable in cases of weak digestion; a wineglassful should be taken directly after meal-time. Combined with cathartics, it prevents griping. It may be used in the form of powder, or as a tincture, which is made by macerating $1\frac{1}{4}$ oz. of bruised ginger in a pint of rectified spirit of wine for seven days; there is also a syrup (*see* F. 10, 35, 39, 42, 43, 44, 45, 46, 48, 51, 72, 86, 127, 128, 147, 148, 149, 151).

GLAUBER'S SALT—SULPHATE OF SODA.—This may be substituted for Epsom salts; it is similar in its properties and its dose, and by some considered less nauseous, especially in combination with acid (*see* F. 107).

GLYCERINE—is a product from fatty matter. It is serviceable in medicine from its power of retaining moisture. Thus, in chapped hands, and some forms of cutaneous disease, the following lotion may be useful:—Glycerine $\frac{1}{2}$ oz., pow-

dered borax 1 drn., elder-flower water to 8 oz.; this may be applied two or three times a day. Glycerine is also useful in some diseases of the ear.

GOULARD EXTRACT (*LIQUOR PLUMBI DIACETATIS*)—is cooling and astringent in its nature. It is only available for external application, and generally requires much dilution for that purpose; it then forms goulard water, which is best made by adding two teaspoonfuls of the strong solution, mixed with an equal quantity of spirit of wine, to a pint of boiled or distilled water. This constitutes an excellent application for any external inflammation, for ophthalmia, and for burns, when the skin remains whole (*see* F. 123).

GREY POWDER.—*See* MERCURY WITH CHALK.

GUAIACUM.—This resinous substance is a valuable remedy for chronic rheumatism, and is also an excellent medicine in cases of debility and irritability of the mucous membrane, which lines many internal organs. The dose of the powder is from 5 to 15 grs. The guaiacum mixture of the Pharmacopœia contains 9 grs. to 1 oz., and is the most convenient form for administration. The compound tincture consists of guaiacum dissolved in aromatic spirit of ammonia, in the proportion of about 1 part in 5, and is more stimulating than the mixture; from half a teaspoonful to a teaspoonful is a dose, and may be taken two or three times a day. The guaiacum mixture is an excellent remedy for chronic bronchitis and asthma, when it may be combined with compound camphor tincture, or with ipecacuanha, if necessary: it is also useful in cases of imperfect and painful menstruation. The compound tincture of guaiacum is especially beneficial in low chronic rheumatism. F. 10 is a good combination for the administration of guaiacum in old rheumatic complaints, and is also serviceable in cases of piles, where there is a torpid and irritable state of bowels.

GUM ACACIA—a demulcent substance, very useful in medicine, and often affords a vehicle for the suspension of more active substances. Gum will serve to allay irritation of the throat, lungs, and urinary passages, and it is, therefore, beneficial in sore throats, coughs, and inflammation of the bladder, urethra, and kidneys. An ounce of gum may be dissolved in a pint of boiling water, sweetened with sugar candy, and flavoured with lemon juice or peel, to be taken in any inflammatory complaint wherein demulcents are desirable.

HARTSHORN SHAVINGS—have considerable nutrient property. The horns of animals are in their composition very similar to bone, but with an excess of gelatine. Thus, therefore, they serve greatly to nourish and restore a reduced constitution when the very framework of the system is weakened and undermined (*see* SICK DIET).

HEMLOCK—CONIUM.—A favourite old medicine, having sedative and anodyne influence. It has much power in allaying irritation, and may be given in any inflammatory case. Alone or in combination it is efficient in many chronic diseases, rheumatism, asthma, diseased liver, &c. The extract is the chief form for administration, and we have already referred to it under the head of extracts. The tincture is made with 5 ozs. of the hemlock leaves to 2 pints of proof spirit; dose, 20 to 30 drops. The plaster of hemlock is a very soothing application for irritable sores or tumours, and is made by adding 1 or 2 drms. of the extract to a small linseed meal poultice.

HELLEBORE, FÆTID.—An excellent vermifuge: 1 oz. of the fresh leaves may be infused in a pint of boiling water for four hours, and then strained off.

For a child six years old, half a wineglassful given every two hours until it takes effect; administered in the morning on an empty stomach.

HENBANE—HYOSCYAMUS.—A peculiarly mild and efficacious sedative: it serves to allay irritation and occasions no excitement, which renders it very available in inflammatory complaints. For children this medicine is invaluable, and in flatulent irritation, chest affections, and dentition, it can be administered to the youngest infant. It may be advantageously combined with aperients. Of the extract we have already spoken. The tincture is made with 5 ozs. of the leaves to 2 pints of proof spirit; the dose for an adult is from 30 drops to 1 dr. (*see* F. 18, 26, 119, 121).

HERA PICRA.—This is an old-fashioned stimulating cathartic, consisting of one-third powdered aloes and two-thirds powder of canella. It has been resorted to by females where the bowels are inactive and the uterine secretion deficient, and in cases where there is no inflammatory or irritative tendency it may be useful.

HOPS (HUMULI).—Hops have considerable medicinal efficacy; they are aromatic, bitter, astringent, and, at the same time, soothing. In cases of debility from any cause, combined with much irritability, they constitute a valuable medicine, often available when opium cannot be borne, and will exert a marked narcotic power. They may be given in the form of infusion of the strength of six drms. to a pint of water, of which from half a wineglassful to a wineglassful may be given as a dose, twice or three times a day; and of the tincture, which is made by macerating 6 ozs. of hops in 2 pints of proof spirit; dose, 1 to 2 drms. There is also the extract already noticed (*see* F. 18, 100). Hops *ought* to constitute the main ingredient of beer, which in that respect is a wholesome beverage.

INFUSIONS—are partial extracts of medicinal principles, made by steeping vegetable medicines in hot or cold water for a certain length of time. They are usually made in covered vessels with boiling water, and after standing two or four hours should be strained off.

IODINE.—This is a potent and valuable article of the materia medica. It has a powerful alterative action, and excites the absorbents. It is used in cases of tumour, chronic rheumatism and scrofula, and other diseased states, both internally and externally, with the best effect. The compound tincture of iodine contains 3 grs. iodine, 6 grs. iodide of potassium, dissolved in 2 drms. of rectified spirit; of this the dose is from 4 to 10 drops two or three times a day in a little water. The compound iodine ointment consists of 15 grs. iodine and 30 grs. iodide of potassium to 1 oz. of lard.

IODIDE OF POTASSIUM.—This has the same character as the iodine, but is much milder and less irritating in its action, and, therefore, is very generally substituted. The dose is from 3 to 8 grs. Iodide of potassium enters into the combination in the preparations of iodine already mentioned, and will be found in F. 7, 115, 142.

IRISH MOSS, OR CARRAGEEN AND ICELAND MOSS.—These are rather articles of sick diet than belonging to the materia medica. In the form of jelly and decoction they are, however, diluent and emollient, and exert a soothing influence in irritative states, especially when connected with pulmonary disease (*see* COOKERY FOR THE SICK).

IPECACUANHA—a mild and safe emetic which acts without producing much irritation or subsequent depression. The full dose is from 15 to 30 grs., taken in a little cold water, and which may be repeated in ten minutes if necessary; as soon as nausea is experienced, and not before, copious draughts of warm water or any mild diluent will promote the emetic operation. When ipecacuanha does not occasion vomiting, it will generally occasion mild aperient action, and this may even be the case in addition to the emetic effect. Thus it may be useful in any loaded state of stomach and liver. In small doses, from 1 to 3 grs., ipecacuanha promotes action and secretion in the stomach and bowels; it especially affects the lungs, causing secretion from the lining membrane and expectoration; and it also has a gentle sudorific tendency. This medicine is most useful in all catarrhal affections, and is exceedingly serviceable with children. Ipecacuanha is combined with extract of hemlock in the compound hemlock pill of the Pharmacopœia, and it enters into the composition of F. 1, 12, 35, 38, 87, 96, 97, 98, 145 among the prescriptions.

IRON (FERRUM).—This is, perhaps, on the whole, the most valuable tonic in the *Materia Medica*. Its preparations are numerous and varied in form, each being specially adapted for administration for particular diseases, or according to the peculiar circumstances thereof.

SESQUIOXIDE OR CARBONATE OF IRON.—This is an old but highly valuable preparation of the metal. It is one of those which possess most medicinal efficacy, and is available in all cases where the administration is desirable. In debility, especially of nervous character, and particularly where there is undue sensibility, as in neuralgia, or spasmodic action, as in chorea or St. Vitus's dance, the administration of the sesquioxide of iron seldom fails to afford relief. Where the blood is impoverished or imperfectly organised, a lengthened administration of this preparation is always serviceable. From 10 to 30 grs. may be given three times a day in water, honey, or treacle.

SULPHATE OF IRON.—This is a common and useful form for the administration of iron, when well prepared; it has the advantage of occupying but a small bulk, and can therefore be given in the form of pills. Dose, 1 to 5 grs. In the compound iron pill of the Pharmacopœia, there is a grain of the sulphate of iron in every five, and this is supposed to be converted into a carbonate by the mode of preparation. The dose is 10 grs. three times a day (*see* F. 89, 166).

AMMONIO-CITRATE OF IRON.—This is an elegant preparation, perfectly soluble, and not unpleasant in flavour. It is well adapted for administration to children and delicate females. The dose is from 3 to 10 grs. (*see* F. 164).

CITRATE OF IRON AND QUININE is a double tonic, very efficient in cases of debility, and the combination certainly seems mutually to enhance the power of the two medicines. It generally agrees well with the stomach. Dose, 3 to 5 grs. in solution (*see* F. 165).

WINE OF IRON (VINUM FERRI).—Made according to the pharmacopœial method, this preparation cannot possess much efficacy, but if prepared as follows, it will be a serviceable medicine for children and delicate females:—Take of sesquioxide of iron $1\frac{1}{2}$ oz., sherry wine 1 pint: let them digest together for fourteen days, and then strain. Dose, from a teaspoonful to a tablespoonful two or three times a day, soon after meals.

POTASSIO-TARTRATE OF IRON is a mild preparation, chiefly suitable for children. The dose is from 5 to 20 grs.; it is soluble in water.

SESQUICHLORIDE OF IRON, TINCTURE OF THE—MURIATED TINCTURE OF STEEL.—This is a peculiar preparation, combining astringency with the tonic ferruginous property; it has also a diuretic power in some cases. It may be given in combination with the infusions of quassia, camomile, or calumba, in doses of from 10 to 30 drops. This medicine is useful in cases of muscular relaxation and debility, and in those of undue secretion or passive hæmorrhage; it is also serviceable in cases of spasm connected with the urinary organs. Where it constipates, it should be combined with Epsom salts or tincture of aloes.

CARBONATE OF IRON WITH SUGAR is a useful and agreeable preparation, especially for children, given in doses of from 10 to 30 grs.

IODIDE OF IRON, SYRUP OF.—This is a most valuable preparation, combining the tonic properties of iron with the alterative influence of iodine. Where nutrition is at fault, as in serofulous, rickety constitutions, and where growth is deficient from debility, this medicine has great efficacy. It is also serviceable where there is a flabby and relaxed habit of body, with inaction and want of tone. Dose, 1 drm. two or three times a day in a little water.

JALAP.—This is a very useful purgative, but somewhat apt to gripe: of the powder 20 or 30 grs. is a dose. It is best given in combination (*see* F. 63, 70, 73, 74). The compound jalap powder of the Pharmacopœia consists about one-third of jalap and two-thirds bitartrate of potash, with the addition of a little ginger. Dose, 1 drm. (*see* F. 65). The tincture of jalap constitutes a good addition to black draught when extra strength is required; a $\frac{1}{2}$ oz. is equal to 30 grs. of jalap. The extract of jalap is useful as an ingredient for aperient pills, &c. (*see* F. 29).

JUNIPER BERRIES.—These possess diuretic properties, and are useful in dropsical cases, and where the kidneys are inactive. They form an ingredient of the compound decoction of broom of the Pharmacopœia. The best way of using them by themselves is by infusing 3 ozs. of the bruised berries in a pint of boiling water for four hours, and then straining the infusion; a small tea-spoonful is to be taken three times a day. An essential oil is also obtained from the berries.

KINO.—Valuable as an astringent, and useful in diarrhœa depending on relaxation and not on inflammation. In such cases it may be combined with chalk mixture. An infusion of the strength of $\frac{1}{2}$ oz. to a pint of water may be used as a gargle in relaxed sore throat. The tincture of kino is made of the strength of 7 drms. of kino to 10 ozs. rectified spirit. Dose, 1 to 2 drs. The compound kino powder is a good form, when the conjunction of opium is desirable. The dose is 20 grs., which consists of 15 grs. kino, 4 grs. cinnamon, and 1 gr. opium.

KOUSSU.—This medicine is said to be very efficient in the expulsion of worms, especially tape-worm. The dose is half an ounce taken in a little warm water. No food should be taken for twenty-four hours previously, and a dose of mild aperient medicine should be administered a few hours beforehand. The action of the koussu will be promoted by drinking copiously of tea without milk or sugar, and should not the bowels be open in the course of about four hours, a second aperient dose will be requisite.

LEAD (PLUMBUM).—A valuable medicine, but requires caution in its administration. The **ACETATE** OR **SUGAR OF LEAD** is the medicinal form used; it is astringent in its action, and may be given in doses of from 1 to 5 grs., frequently repeated, in cases of violent hæmorrhage connected with the lungs, the stomach, the bowels, and the womb; and it is thought by some that by combining it with a small proportion of acetic acid it is rendered more soluble and prompt in its action; and if there be much pain or irritation, opium must be added. Acetate of lead is sometimes useful in obstinate and protracted diarrhœa (*see* F. 57, 58). As an external medicine, lead is in very common use as a soothing and astringent application; the oxide of lead enters into the composition of many of the plasters ordered in the Pharmacopœia; the acetate of lead added in the proportion of 1 drm. to a pint of water, makes a good cooling lotion; and there is another form of acetate, which has been spoken of under the head of Goulard's Extract.

LIME WATER.—This is made by pouring water on a little fresh lime, and straining it off after standing. It is a gentle alkaline and alterative medicine, useful in cases of acidity of the stomach and any unnatural acid state of the urine.

LINIMENTS—are external applications of oily or soapy nature, which are applied by means of friction; if applied by soaking or bathing with flannel, they are termed **EMBROCATIONS**. **LINIMENT OF AMMONIA** consists one-third of solution of ammonia, and two-thirds of olive oil; it is a good stimulant application for rheumatic pains or strains. **LINIMENT OF LIME** consists of equal parts of lime water and olive oil; and it is an excellent soothing application as an embrocation in cases of extensive burn. **LINIMENT OF CAMPHOR** is composed of 1 oz. camphor, dissolved in 4 ozs. olive oil; it is a gentle stimulant application, and may be used in cases of bruise and muscular pains. **COMPOUND CAMPHOR LINIMENT** is a powerful stimulating application, consisting of camphor, oil of lavender, rectified spirit, and strong solution of ammonia; it is fitter for an embrocation than for a liniment, for which latter purpose it should be combined with some other. **LINIMENT OF MERCURY** consists of mercurial ointment, solution of ammonia, camphor, and lard; it is a powerful stimulant and alterative application, which may be used in some cases of tumour and enlarged joints; and it is also available in cases of deep-seated chronic inflammation. **LINIMENT OF OPIUM** consists of 1 part laudanum to 3 parts soap liniment; it is a good anodyne application. **LINIMENT OF SOAP** is composed of soap, camphor, and spirit of rosemary; it is a gentle stimulant application, and a good medium for friction when that mechanical excitation is desirable. **LINIMENT OF TURPENTINE** contains soap, camphor, and turpentine; it is a powerful stimulating application, affording an efficient means of counter-irritation when it is desirable in rheumatic affections of the joints, and also in cases of deep-seated disease, whether rheumatic, neuralgic, or inflammatory.

LINSEED.—A good demulcent. Linseed tea has a soothing pectoral effect, and when freely drank is useful in allaying irritation of the kidneys and other urinary organs (*see* **COOKERY FOR THE SICK**). From its emollient nature, linseed meal constitutes a good material for poultices.

LIVER OF SULPHUR—SULPHURET OF POTASH.—This substance is employed in many cutaneous diseases, both as an internal medicine and externally. Dose, 10 to 20 grs., and the ointment is made by mixing 1 drm. with 1 oz. lard. Sulphuret of potash is the active principle in the Harrogate and other sulphurous waters.

LOBELIA INFLATA—**INDIAN TOBACCO**.—This medicine exerts a specific power over the lungs, which makes it serviceable in asthma and other pulmonary complaints. There are two pharmacopœial preparations, the tincture and the atherial tincture; they are both made of the strength of 1 to 8, and the dose is from 10 to 30 drops twice or three times a day in a little water (*see* F. 26).

MAGNESIA, CALCINED.—This is a valuable alkali. It confines its effects chiefly to the stomach and bowels, and in neutralizing the acid that is contained, it has a gentle laxative influence; but if the acid be in great quantity, the aperient action may be more powerful. Thus as an antacid it is most valuable, especially for children, and will often relieve flatulency, colicky pains, heartburn, &c., with great promptitude. In slight cases of gout there is no alkali which is so efficient in neutralizing the acid state which prevails throughout the system as magnesia, and moreover it is of great utility in counteracting mere gouty tendency, especially when taken in combination with other medicines, as in F. 148. Undue acidity of the renal secretion, which often occasions the formation of red gravel, may also be much relieved by the habitual use of small doses of magnesia, especially when combined with other alkalies, as in F. 8. For an adult the dose of magnesia is from a teaspoonful to a dessertspoonful. It may be advantageously joined with other medicines (*see* F. 45, 49, 51, 52, 147, 154).

MAGNESIA, CARBONATE OF—is somewhat similar to the calcined magnesia, but not so decidedly antacid; it is rather more aperient, but has a tendency to clog the bowels when taken habitually. To produce saline aperient action there is no better medicine than equal parts of carbonate and sulphate of magnesia.

MANNA.—A mild and efficacious laxative, well adapted for children and delicate females. It is most useful in combination with other aperients, especially senna, rhubarb, and saline purgatives, appearing to augment their effect, and at the same time to render them less irritating. Manna has a good effect when mixed with the food of infants (*see* F. 42, 48, 52).

MATICO.—A South American plant, of which the leaves have much styptic virtue. After being moistened in hot water, the matico may be applied to the part whence the hæmorrhage proceeds.

MERCURY (HYDRARGYRUM).—The preparations of this metal are of great power and value. A judicious administration is, however, essential to their medicinal efficacy, for if given rashly and heedlessly they will be injurious, and even poisonous, in their influence. The prejudicial action of mercury is often not perceptible at the time of administration, especially with children; but so powerful and subtle a medicine cannot fail to produce a deep impression, irritating the nervous system, exciting the glands and mucous membranes, and deteriorating the blood, so as to expose the constitution to any other injurious morbid tendency.

MERCURY WITH CHALK, OR GREY POWDER (HYDRARGYRUM CUM CRETÁ).—This is a mild and efficacious alterative, especially adapted for young children and delicate persons. In general deficiency of the secretions, especially of that of the liver, mercury with chalk, either alone or in combination, is exceedingly useful. The dose for children up to twelve months old is from 1 to 4 grs. (*see* F. 13, 50).

MERCURY, AMMONIO-CHLORIDE OF, OR WHITE PRECIPITATE.—This preparation is somewhat more powerful than calomel, and though seldom administered internally, is available in about two-thirds the dose. It is chiefly used externally in external diseases, and for the destruction of vermin. An ointment may be made of the strength of 1 drm. to 1 oz. lard.

MERCURY, NITRIC-OXIDE OF—RED PRECIPITATE.—This powerful preparation is only used for external application, in which respect it is very valuable for its stimulant and alterative action. The ointment is best made by mixing 1 drm. of nitric-oxide of mercury (very finely powdered) with 1 oz. of lard.

MORPHINE—MORPHIA.—The active sedative principle of opium. There are two salts of the alkaloid chiefly in use, the acetate and the hydrochlorate; of these there are pharmacopœial solutions, each of which contains 1 gr. in 1 drm. The dose of either of the two salts is from $\frac{1}{8}$ to $\frac{1}{2}$ gr., and of the solutions in proportion. F. 15, 16, 100, 117.

MUSK (MOSCHUS).—This medicine has been much esteemed as a stimulant and antispasmodic, but its value has undoubtedly been overrated. It has, however, some utility in hysteria and other nervous diseases. Dose, from 5 to 20 grs., in pills or mixture.

MUSTARD (SINAPIS).—The whole mustard-seed has been strongly recommended in cases of chronic rheumatism, liver complaints, &c.: half a teaspoonful may be taken two or three times a day, and in some cases it is undoubtedly serviceable from its peculiar stimulating influence on the lower bowel. Flour of mustard may be used as an emetic, as noticed under the head of POISONS. The chief use of mustard flour is externally, in the formation of stimulating poultices (*see* EXTERNAL APPLICATIONS). These are very beneficial in cases of nervous or rheumatic pain, and are also useful in cases of internal spasm, irritation, and even inflammation, as we have already frequently pointed out.

MYRRH.—This resinous substance has a stimulant action, especially on the mucous membranes. It is useful in chronic affections of the lungs, accompanied with debility, such as asthma, where secretion and expectoration do not duly take place. It is also useful when the uterine function is not properly performed in young females of pale languid appearance, especially when given in combination, as in F. 89, the aloes and myrrh pills, and the compound tincture of aloes. The tincture of myrrh is made by macerating $1\frac{1}{2}$ oz. myrrh, in 1 pint of rectified spirit for seven days; the dose is 1 drm., and, combined with acids or astringents, it forms a good gargle in cases of ulcerated sore throat, or where the mouth and gums are spongy and diseased (*see* F. 134).

NITRE (NITRATE OF POTASH).—This is a cooling and lowering medicine, of much utility in inflammatory and febrile affections; it also has a diuretic influence. The dose is from 5 to 10 grs., but it is usually given in combination (*see* F. 108, 111, 117, 119).

OAK BARK.—This has valuable astringent power, more especially when applied locally. The decoction may be made by boiling down 1 oz. oak bark bruised, in $1\frac{1}{2}$ pint of water, until it is reduced to 1 pint. This is available for hæmorrhage, prolapsus of the lower bowel, or chronic female discharges (*see* F. 61).

OIL OF ALMONDS—a soothing emollient medicine, and may be used as an emulsion for cough and irritation of the chest and windpipe, especially for children (*see* F. 116).

OIL OF ANISEED and the other **ESSENTIAL OILS** possess the properties of the different medicinal herbs from which they are obtained. They are most of them warm and stimulating—viz., **CARAWAY**, **CINNAMON**, **CLOVES**, **LAVENDER**, **PENNYROYAL**, **PEPPERMINT**, and may be given in doses of from 1 to 3 drops; the oil of juniper, in doses of from 2 to 4 drops, acts on the kidneys.

OINTMENT, BASILICON, OR CERATE OF RESIN.—This consists of resin, wax, and olive oil. It is an excellent stimulant dressing for foul and indolent sores.

OINTMENT OF CANTHARIDES.—A good stimulating dressing for blisters, when it is desirable to keep them open.

CERATE OF CALAMINE—TURNER'S CERATE.—An useful mild stimulating application to burns, wounds, &c.

OINTMENT, CITRINE, OR OINTMENT OF NITRATE OF MERCURY.—This is of great utility as an application to chronic eruptions, old inflammation of the eyelids, and scald-head, but generally is too strong for use, and should be mixed with an equal quantity of lard, or if used full strength, it should be applied lightly, being previously melted with a little heat. The mild ointment of the Pharmacopœia is in the proportion of 1 part of the strong ointment to 7 parts of the lard.

CERATE OF ACETATE OF LEAD AND COMPOUND CERATE OF LEAD are formed by combination of the acetate of lead with wax or oil. They are cooling and astringent applications; the latter one is somewhat preferable.

OINTMENT OF MERCURY.—The constitutional effect of mercury may be produced by the use of this ointment, when it is desirable to effect it without resorting to the use of the medicine internally. This, however, can only be done under the direction of a medical man. In cases of chronic swellings, rubbing in a small quantity of mercurial ointment every night sometimes proves serviceable.

MERCURY, COMPOUND CERATE OF.—This consists of mercurial ointment, camphor, and soap cerate. It forms a good alterative and stimulant plaster in cases of chronic enlargement of the joints.

SPERMACETI OINTMENT may be prepared by dissolving $2\frac{1}{2}$ ozs. of spermaceti and 7 drms. of wax in 10 ozs. of olive oil, over a slow fire, keeping it well stirred till it cools. It is a good simple dressing, and may be made the medium of applying active medicinal substances.

OPIUM—is one of the most important articles of the *Materia Medica*, being the chief anodyne and narcotic in use. Alone and in varied combination, it is available in very many diseases where it is desirable to diminish sensibility, to allay irritability, or to occasion sleep. When administered injudiciously, however, it may be as noxious and even poisonous in its effects as it is beneficial under appropriate circumstances. But opium has a peculiar stimulating influence of its own, tending to interfere with the minuto capillary

circulation, and causing what is termed congestion, which renders its administration unadvisable in violent inflammatory affections, or where there is much determination of blood to the head. In low states of fever or inflammation, where there is much nervous excitement, opium will often produce a magical effect in subduing restlessness and irritation without causing any undue depression, but, on the contrary, exerting a cordial influence. Opium tends to check and arrest all the secretions, except, perhaps, the perspiration.

This medicine is of much service in diarrhoea, and also in obstinate coughs unattended with inflammation. In acute rheumatism it will afford much benefit under appropriate circumstances. It is also much employed in spasmodic cases, and for the relief of nervous and muscular pains.

The average dose of powdered opium for an adult is 1 gr., and where it is of consequence to obtain a quieting and sedative effect, the medicine must be given in a full dose, and if requisite, it must be repeated at short intervals. When the dose is too small, it is apt to cause irritation and excitement instead of the wished-for sedative influence. To children opium should be exhibited with much care and caution, as it is apt to produce undue effect in ordinary cases. Henbane is far preferable.

The preparations of opium are very numerous, of different strengths, and available under various circumstances. CONFECTION OF OPIUM consists of opium in combination with various spices and syrup, and is a good cordial form for its administration with chalk mixture in diarrhoea; 36 grs. contain 1 gr. opium. PLASTER OF OPIUM contains one part in ten, and, spread on leather, is a good anodyne application in cases of rheumatic and neuralgic pain. EXTRACT OF OPIUM is a somewhat purer and milder preparation than the crude opium, the dregs and foreign matter being got rid of, and some of the stimulating principle being rejected; average dose 1 gr. LINIMENT OF OPIUM consists three-fourths of soap liniment, and one-fourth of tincture of opium; it is a fluid application for external use; any part of the body affected with rheumatic or nervous pain may be rubbed or bathed with it. COMPOUND SOAP PILL contains 1 gr. opium in every 5 grs., combined with soap and liquorice powder. COMPOUND STORAX PILL is an aromatic form of the same strength as the last. COMPOUND POWDER OF CHALK WITH OPIUM is a useful preparation, the opium being combined with chalk, an astringent, and aromatics; and being much diluted, 1 gr. in 40 grs., it is readily administered in small doses, which is convenient for young children; it may be given in diarrhoea in proportion to the opium contained. COMPOUND KINO POWDER is a somewhat similar preparation to the last, somewhat more astringent, and containing double the proportion of opium—viz., 1 gr. in 20 grs. COMPOUND IPECACUANHA POWDER is the same as Dover's powder, which has already been noticed. COMPOUND TINCTURE OF CAMPHOR is a peculiarly mild preparation of opium, containing 2 grs. in 1 oz., combined with camphor, flowers of benjamin, and oil of aniseed, macerated together in proof spirit; it is a favourite remedy for common coughs, unattended with inflammation, in doses of a teaspoonful for an adult. TINCTURE OF OPIUM or LAUDANUM is the most serviceable preparation of opium; its strength in proportion to the powder is 18 or 20 drops to 1 gr. (accurately 15 m. to 1 gr.). WINE OF OPIUM is nearly equal in strength to the tincture, but is aromatic and somewhat milder. The fluid preparations of opium have the advantage of producing a prompter and more decided effect than the drug in substance, at any rate, in the majority of instances, from being more readily absorbed and taken up into the system. Various modes of combining opium with other medicines are seen in F. 17, 19, 21, 77, 94, 95, 97, 114.

ORANGE PEEL (CORTEX AURANTII).—This is a somewhat stomachic. There are a tincture, a syrup, and a compound infusion; they are used for the sake of their flavour, and as vehicles and accompaniments of more active medicines.

PAREGORIC, OR COMPOUND TINCTURE OF CAMPHOR.—*See* OPIUM.

PAREIRA BRAVA.—This is a valuable medicine in cases of irritable bladder, and where there is any discharge therefrom, owing to chronic inflammation. The best form for administration is a decoction, which is to be prepared by boiling down 10 drms. of the bruised root in $1\frac{1}{2}$ pint of water, until it is reduced to 1 pint; of this a wineglassful should be taken three times a day, and mineral acids or alkalis may be combined with it according to circumstances.

PELLITORY OF SPAIN.—A powerful stimulant, used chiefly to promote the flow of saliva, and thereby relieve the toothache when merely connected with the nerve; it is usually prepared in the form of a tincture.

PILL COCHLE—is very similar to the compound colocynth Pill.—*See* ALOES.

COMPOUND GALBANUM PILL is a good stimulant and anti-spasmodic; it consists principally of assafoetida and galbanum, which are very similar in their nature; dose, 10 grs. twice or three times a day.

PLASTERS.—Alluded to under the head of External Applications, and some of them under the heads of the special active ingredient. They are generally used spread on leather with a spatula by the aid of a moderate heat. Some plasters are stimulating, and others anodyne. Besides those referred to elsewhere, we may mention the following:—The **COMPOUND PITCH PLASTER**, a slight stimulant and counter-irritant, useful in chronic rheumatism and catarrhal affections of the chest. The **GALBANUM PLASTER** is of a similar nature. **RESIN PLASTER**, **SOAP PLASTER**, and **LEAD PLASTER** are available to afford support and to protect the surface.

POMEGRANATE BARK (CORTEX GRANATI).—This has a powerful astringent character, and may be used in chronic diarrhoea, dysentery, and cases where the menstruation is excessive; its chief use, however, is as a vermifuge, in which respect it is very efficient. It is best used in the form of decoction, which may be prepared by boiling 2 ozs. of the pomegranate bark in $1\frac{1}{2}$ pint of water until it is reduced to 1 pint, and then straining. Of this half a wineglassful may be taken two or three times a day as an astringent, and a wineglassful every hour or two as an anthelmintic, assisting its operation with castor oil if requisite. The pomegranate peel has the same medicinal power as the bark.

POPPY HEADS.—These have some opiate property, which is extracted by the action of boiling water; it is by this means that the syrup and extract of poppies are obtained. The decoction of poppy heads is prepared by boiling 4 ozs. of them broken up and bruised in 4 pints of water for a quarter of an hour, and then straining off the liquid; a tablespoonful or more of laudanum, added to the same quantity of hot water, will, however, answer the purpose much better (*see* F. 18, 78, 79, 93, 120).

POTASH (POTASSA).—This is a valuable alkaline substance, which acts as an antacid and also as an alterative; in this last respect it has much influence in promoting absorption, especially of fatty matter, with which it combines,

and appears to cause it to be more readily taken up by the veins and lymphatics. On the same principle this medicine has been given in scrofula and tubercular disease, with a view to remove the morbid deposits, but without much success. In some enlargements of the internal organs, or where there is undue acid secretion of the stomach or of the kidneys, this medicine may be very serviceable. The form in which this medicine is used is the solution, which may be given in doses of from 5 to 20 drops twice or three times a day in a little milk and water, or in combination (*see* F. 8, 11, 130, 146). The action of the salts of potash, or the combinations of that alkali with acids, is for the most part widely different; they pass more readily through the system, and all tend to act on the kidneys—that is, the kidneys throw them off in combination with an increased amount of secretion. Each salt, however, has its peculiarity.

POTASH, BICARBONATE OF.—This is a mild alkaline salt, much used in the preparation of saline medicine, whether effervescing or otherwise (*see* F. 101, 102, 149, 160). The bicarbonate of potash must not be confounded with the carbonate, which is the same as the old subcarbonate of potash or salt of tartar, and little used in medicine.

POTASH, BITARTRATE OF—CREAM OF TARTAR—has a gentle aperient action on the bowels; it serves to augment the action of other purgatives, such as senna and jalap, and the power which it has of causing watery evacuations makes it useful in dropsy. Dose, 10 to 40 grs. (*see* F. 39, 40, 86). It forms part of the compound jalap powder.

POTASH, ACETATE OF.—This acts more mildly and efficiently on the kidneys than any other salt of potash. Dose, 20 to 30 grs. (*see* F. 81).

POTASH, SULPHATE OF (SAL POLYCHREST).—This salt is useful in combination with purgatives, such as jalap and rhubarb, giving them an extra cleansing and deobstruent power; dose, 20 to 30 grs. (*see* F. 64). It enters into the composition of Dover's powder, and prevents the opium from confining the bowels as much as would otherwise be the case.

POTASH, TARTRATE OF—SOLUBLE TARTAR.—A mild saline aperient, very useful in combination with scuna, rhubarb, manna, &c., of which it seems to obviate the griping action; dose, 1 to 3 drms. (*see* F. 44, 48, 70).

QUASSIA.—An excellent bitter, which possesses decided stomacheic and tonic efficacy. It has no astringency, and may therefore be given with iron when desirable without decomposing it. In gouty dyspepsia of low character this is an excellent remedy. There is an infusion made by pouring a pint of boiling water on 40 grs of the sliced wood, but it should be made at least double the strength (*see* F. 149).

QUICKSILVER (HYDRARGYRUS).—This is mercury in a metallic state. It has been given in large doses to relieve obstruction of the bowels, but with doubtful benefit.

QUININE, SULPHATE OF.—See BARK.—The compound tincture of quinine is an agreeable and convenient form; it consists of 1 gr. quinine dissolved in 1 dr. tincture of orange-peel. It may be variously combined (*see* F. 155, 156, 157, 158, 162, 163, 165).

RHUBARB (RHEUM).—A well-known stomachic aperient: it has a peculiar

astringent tendency after having exerted its purgative action, which makes it available in weak and relaxed states of the system. The dose of the powder as an aperient is from 20 to 40 grs.; as a stomachic and tonic, from 2 to 5 grs. The infusion is a valuable form as a laxative and stomachic; it is made by infusing 3 drms. rhubarb bruised in a pint of boiling water for two hours, and then straining. The compound tincture of rhubarb is of the strength of 4 grs. to 1 drm., combined with ginger and saffron; it is used chiefly as a stomachic, and is a favourite remedy in cases of irritation and spasm of the stomach and bowels depending on disordered digestion. Thus, in some cases of diarrhoea, it will afford much relief. Dose, from $\frac{1}{2}$ oz. to 1 oz. The extract is a convenient form for making into pills. Compound rhubarb pill, *see* ALOES. Rhubarb is an useful medicine for children, especially when the stomach and bowels have become disordered by injudicious diet, when it will give tone after it has produced a gentle aperient effect. Rhubarb may be given in a great variety of combinations, according to the object of its administration; some of the leading ones will be found in F. 13, 14, 21, 29, 31, 43, 44, 48, 49, 50, 51, 74, 145, 146, 147, 148, 149, 151, 155, 158, 160.

ROCHELLE SALT—POTASSIO-TARTRATE OF SODA.—A mild and efficacious saline aperient, having but little taste; it is not much employed by itself, but sometimes serves as an adjunct to saline and aperient mixtures (*see* F. 42, 105). It constitutes the active ingredient of SEIDLITZ POWDERS, in which form it is much used. They may be thus prepared:—Take of potassio-tartrate of soda $1\frac{1}{2}$ oz., carbonate of soda 3 drms., essence of lemon 10 drops; mix well, and divide into six powders, which are to be folded in blue papers; take of tartaric acid $2\frac{1}{2}$ drms., and divide into six powders, which are to be folded in white papers. One of the first powders is to be dissolved in nearly half a pint of cold spring water, and one of the second is to be dissolved in half a wineglassful of water; the two are then to be mixed, and drank while effervescing. The water may be a little warm, if preferred, and the addition of a teaspoonful of tincture of ginger is a great improvement. The proper time for taking a Seidlitz powder is half an hour before breakfast.

ROSE LEAVES.—These have a mild astringent property, and an agreeable flavour. The infusion is made with a pint of boiling water poured on 3 drms. rose-leaves and 6 drms. sugar, $1\frac{1}{2}$ drm. dilute sulphuric acid being added when the infusion gets cold. It forms a good vehicle for the administration of the mineral acids, Epsom and Glauber salts, and quinine.

SAFFRON—CROCUS.—Its chief virtue consists in its colouring property, though it perhaps may possess some slight stimulant and antispasmodic power. It is much in popular use for the purpose of throwing out eruptive diseases—measles, scarlatina, small-pox—but cannot be said to possess any special efficacy in that respect. There is a syrup of saffron, and it enters into the composition of several medicines.

SAL PRUNELLA.—This is a concentrated and purified form of nitre. A small portion suffered to dissolve in the mouth will afford relief to hoarseness, slight sore throat, or irritable cough.

SALT, COMMON—CHLORIDE OF SODIUM.—This is very useful as a dietetic accompaniment, and, indeed, may be considered as essential to health. It helps to promote digestion, and affords an important ingredient which is natural to the composition of the blood; it is especially requisite with a rich

oily diet, and is certainly a preventive of the formation of intestinal worms. Taken too freely, salt is supposed to deteriorate the blood, and render nutrition imperfect; but this is probably to be ascribed to deficient and unwholesome nutriment, the nourishing nature of meat when preserved with salt being more or less destroyed by the chemical action which takes place. Salt is useful in enemata, to promote a gentle but thorough evacuation of the bowels. From one to two tablespoonfuls may be used with from a pint to a quart of gruel. Applied externally, dissolved in hot or cold water, salt has a stimulating influence.

SARSAPARILLA.—A valuable alterative medicine, possessing considerable virtue in the treatment of constitutional complaints. It is administered in many forms of chronic eruption, of glandular disease and obstruction, of rheumatic affections, and of debility, and will often prove of great service if fairly persevered in. The liquid extract of the Pharmacopœia is a good preparation, and may be given in doses of from 1 to 2 drms. The compound decoction, however, is preferable, combining mezereum, sassafras, and guaiacum, with the sarsaparilla; from 2 to 4 ozs. should be taken three times a day. Many pharmacutists prepare this compound decoction in a concentrated form, which may often be substituted with advantage. The preparations of sarsaparilla are often valuable vehicles for the more powerful alteratives, such as iodide of potassium and mineral acids (*see* F. 5, 7).

SCAMMONY.—This a good and rather powerful purgative, useful in worm cases, &c. The dose of the powder is from 15 to 20 grs. It may be advantageously combined with calomel, rhubarb, or jalap, also with bitartrate or sulphate of potash (*see* F. 73, 74). Scammony enters into the composition of the compound colocynth pill (*see* ALOES). The compound scammony powder contains 4 grs. scammony, 4 grs. hard extract of jalap, and 2 grs. ginger in every 10 grs. (*see* F. 64). The confection of scammony consists nearly half of powdered scammony, combined with aromatics and syrup, and is a good form for the administration of the medicine to children.

SENEGA.—A stimulating expectorant and diuretic. It seems to have a general influence on the mucous membranes, and if taken in an over-dose occasions vomiting and purging. The decoction is prepared by boiling down 10 drms. of the root with 2 pints of water until it is reduced to 1 pint, and of this half a wineglassful may be given two or three times a day, in cases of dropsy, asthma, and gout; it is also said to be very efficient in promoting the monthly female discharges.

SENNA.—A favorite purgative, of very general utility. It is mild and efficient in its action, appearing to excite the entire course of the alimentary canal, but when given alone is apt to gripe, which is obviated by the combination of some neutral salt and aromatic. The pharmacopœial compound infusion is made by pouring a pint of boiling water on $1\frac{1}{2}$ oz. of senna leaves and $1\frac{1}{2}$ drms. of bruised ginger, and which should be strained after standing two hours; dose, from $1\frac{1}{2}$ to 2 ozs., which is rendered more efficient by the addition of $\frac{1}{2}$ oz. Epsom salts; and this constitutes the basis of the common black draught. Senna is available in almost all diseases where aperients are requisite (*see* F. 42, 47, 52, 68, 69, 70). The COMPOUND TINCTURE OF SENNA is a warm agreeable aperient. POWDERED SENNA is sometimes given for worms, in doses of from 20 to 40 grs., in combination with an equal quantity of sulphate or bitartrate of potash.

SERPENTARY—is a stimulant, and has some diaphoretic power; it is said to be serviceable in low fever, and in cases of debility after inflammation of any of the mucous membranes. The best preparation is the infusion, which is made by macerating $\frac{1}{2}$ oz. of the root in a pint of boiling water for four hours, and then straining. A wineglassful may be taken two or three times a day.

SOAP (SAPO).—This is used as a medicine, to dilute purgative and other substances, by dividing them minutely when an ingredient in pills.

SOAP CERATE—is a soft, smooth, cooling application, which, spread on linen, serves to give support to any injured part to which it is applicable, as in cases of fracture, &c.

SODA, BICARBONATE OF—CARBONATE OF SODA—is an alkaline salt, in very common use. It serves to correct acidity of the stomach, and is also beneficial where the secretion of the kidneys is unduly acid, and even where there is secretion of red gravel. In cases of irritation of the mucous membrane lining the bladder, stomach, and other cavities and passages, carbonate of soda is often very serviceable. By counteracting undue acid formation in the stomach, it will often remove heartburn. Carbonate of soda is often a valuable adjunct to vegetable tonics, causing them to be better borne, and rendering them more efficient. Dose, from 10 to 30 grs. (*see* F. 13, 102, 103, 105, 106, 113). The dry carbonate of soda has the advantage of being available for pills (*see* F. 9). Carbonate of soda enters into the composition of what are called soda powders. (*See* TARTARIC ACID.)

SPERMACEI.—This has some soothing and emollient influence, especially on the lungs and air-passages. It is given as an emulsion, made by rubbing it up with yolk of egg and sugar, and then adding water. The dose is from $\frac{1}{2}$ dr. to 1 dr. Spermaceti is also an ingredient for cooling ointments.

SPIRIT OF AMMONIA, AROMATIC—SAL VOLATILE.—This is stimulant and antispasmodic, like carbonate of ammonia, and also of alkaline quality. It is available in many low states of system, especially where there is nervous debility. Its aromatic nature makes it grateful to the stomach, and enhances its effect. In lowness of spirits, hysterical seizures, and attacks of fainting, it is a favourite remedy, and may be given in doses of from 30 to 60 drops, with a little cold water. Aromatic spirit of ammonia is given in combination with various vegetable tonics and stomachics, of which it is found to increase the efficacy; it also serves to correct the griping tendency of purgatives (*see* F. 21, 45, 68, 69, 79, 126, 148, 151, 152).

SPIRIT OF AMMONIA, FÆTID.—A powerful stimulant and antispasmodic, consisting of a combination of assafœtida with ammonia; it may be given in low nervous states, where there is much depression, in the proportion of about half the dose of sal volatile.

SPIRIT OF HARTSHORN.—This is a strong solution of sesquicarbonate of ammonia; 4 ozs. to 1 pint, or in the proportion of 1 to 5.

SPIRIT OF NUTMEG (SPIRITUS MYRISTICÆ).—An useful carminative and stimulant, usually employed in combination with other medicines; dose, 1 dr.

SPIRIT OF NITRIC ÆTHER—SWEET SPIRIT OF NITRE.—This is an useful febrifuge and diaphoretic medicine; it also has much influence in promoting the secretive action of the kidneys, and will thereby relieve dropsy. The irritation of throat and chest which attends a common cold may be benefited by the action of this medicine. The dose for an adult is from $\frac{1}{2}$ drm. to 1 drm., taken at bed-time, and, if requisite, two or three times a day (*see* F. 75, 76, 77, 78, 81, 82, 83, 101, 103, 105, 108, 110, 111, 113, 119, 122).

SPIRIT OF TURPENTINE.—A powerful stimulant. In large doses it acts as an anthelmintic, and with this object it is given to promote the evacuation of tapeworm. It may be given on an empty stomach in doses of from $\frac{1}{2}$ oz. to 2 ozs, and castor oil should be administered with it, or two hours afterwards. The compound infusion of gentian serves to promote the action of the turpentine. In small doses, spirit of turpentine acts especially on the urinary organs, and will promote the secretion of urine; it also has considerable power in arresting hæmorrhage, and will afford relief in some cases of chronic rheumatism, especially lumbago. From 10 to 40 drops may be given two or three times a day, or oftener if required. Externally, turpentine may be applied cold or warm to stimulate and excite counter-irritation (*see* LINIMENTS, and F. 135).

SPIRIT OF WINE, RECTIFIED.—This has the action of a powerful diffusible stimulant. It affects the blood and the nerves, and when taken in excess it occasions the greatest prostration and general exhaustion. It is very serviceable in the preservation of vegetable matter, and will best dissolve some of their active principles, and is therefore used in the preparation of the various tinctures, either pure or diluted to half strength, most commonly the latter, which is termed proof spirit. Spirit of wine is useful as an ingredient in cooling lotions, causing evaporation to take place from the surface, and so lowering the temperature (*see* F. 123, 124).

SQUILL (SCILLA).—This medicine has a stimulating influence on the lungs and kidneys, and thus has an expectorant and diuretic action according to the combination into which it enters. It may be used in chronic cough or asthma; also in any form of dropsy, but especially in what is termed water on the chest. The powder may be taken in doses of from 1 to 5 grs. The preparations of this medicine are the vinegar and the tincture of squill, given in doses of from 20 to 30 drops. The oxymel is a combination of honey and vinegar of squill: dose, from half a teaspoonful to a teaspoonful (*see* F. 83, 84, 85, 86, 93, 94, 95, 96, 97).

STARCH.—Its use in medicine is chiefly in enemata, when it forms a good vehicle for opium, or any other medicine which it is desirable should be retained. When the lower part of the bowels is irritable from dysenteric disease or any other complaint, especially in young children, a small injection of thin starch alone will often have a very soothing effect.

STRAMONIUM.—This is a medicine of somewhat similar character to belladonna. It seems to have the power of abating undue muscular action or spasm, but is an uncertain and dangerous remedy. In asthma it seems to do good, whether taken internally or smoked. The dose of the extract is $\frac{1}{2}$ gr., gradually increased, to be taken two or three times a day. It is best smoked by mingling a small proportion of the dried leaf with tobacco, or in the form of a cigar.

SULPHUR—FLOWERS OF SULPHUR.—This is an alterative medicine: it promotes the action of the skin, and relaxes the bowels; it also acts on the liver, is useful in itch and other cutaneous diseases, very serviceable in piles and various affections of the bowels. Chronic rheumatism and asthma are often benefited by the use of sulphur. Dose, 20 grs. to 1 dr. (*see* F. 10, 39, 40). The sulphur ointment and the compound sulphur ointment of the Pharmacopœia are chiefly used in itch and other eruptive diseases.

SULPHUR, PRECIPITATED—MILK OF SULPHUR.—This is a milder and more agreeable preparation than the common sulphur, but not so efficacious or certain, and very apt to be most injuriously adulterated. Dose, $\frac{1}{2}$ drm. to 1 drm.

SYRUP OF GINGER is a warm and agreeable stomachic, and forms a good addition to tonic and stimulant medicines.

SYRUP OF LEMON is made with the juice, and is convenient for the preparation of effervescent salines; two or three tablespoonfuls may be added to 25 or 30 grs. of carbonate or bicarbonate of soda dissolved in one-third of a pint of cold spring water, which will make an agreeable and cooling draught.

SYRUP OF MARSHMALLOW.—This is a good demulcent, and serves to allay the irritation of coughs, sore-throats, and diseased bladder. Dose, 1 drm. (*see* F. 118).

SYRUP OF POPPY is a good medicine when properly prepared. It is a mild anodyne and narcotic, and will often allay pain and induce sleep. Dose, from 1 to 2 drms. (*see* F. 18, 78, 79, 116, 120).

SYRUP OF SARSAPARILLA is a good alterative for young children, and more especially useful as an adjunct to the other preparations of sarsaparilla or more active medicines. It is half the strength of the fluid extract.

SYRUP OF SENNA is a good aperient for infants, alone or in conjunction with other cathartics. It is composed of manna, fennel, treacle, and senna, and about twice the strength of the compound infusion. The dose for a young infant is up to a teaspoonful (*see* F. 49, 52, 68).

SYRUP OF TOLU is a demulcent and soothing medicine in coughs.

TARTAR EMETIC—*See* ANTIMONY, POTASSIO-TARTRATE OF.

TINCTURES are solutions of active medicinal principles in rectified spirit of wine or proof spirit, which is about half the strength, and they are made by infusing the different vegetable substances for ten days or more.

COMPOUND TINCTURE OF BARK.—More grateful and stomachic, though in respect of the bark it is not more than half as strong as the simple tincture, being only in the proportion of one to ten. Dose, 1 to 4 drms.

COMPOUND TINCTURE OF CARDAMOMS.—This is an agreeable carminative and cordial, made with cardamoms and other spices. It is useful in cases of spasm and nervous debility. Dose, 1 to 4 drms.

TINCTURE OF CASTOR is a powerful nervine stimulant and antispasmodic, and is very serviceable in hysterical cases. The dose is from $\frac{1}{2}$ drm. to 2 drms. in a little camphor mixture (*see* F. 23).

COMPOUND TINCTURE OF LAVENDER.—This is a very useful and agreeable antispasmodic and stimulant, much used in nervous and hysterical cases. Dose, from 30 to 60 drops in sugar or in a little water.

TURPENTINE.—When the spirit of turpentine is objectionable for administration, Venice or Canada turpentine may be substituted in the form of pills. Of either of these from 10 to 30 grs. may be given two or three times a day in old asthma where there is undue secretion of phlegm; also in chronic disease of the kidneys or bladder, unattended with inflammation; and they may afford benefit in rheumatic affections of long standing.

UVA URSI—WHORTLEBERRY.—A medicine exerting a peculiar stimulant and astringent action on the kidneys and bladder; it has much power in counteracting any irritation of the urinary apparatus, and checking any undue discharge connected therewith. The infusion is the best form in which this medicine can be administered; it may be prepared by pouring one pint of boiling water on 1 oz. of the leaves; this must stand until cold, and then be strained off. Dose, half a wineglassful three times a day.

VALERIAN is a powerful nervine stimulant and antispasmodic. It is efficacious in cases of nervous debility when connected with hysteria, convulsions, or paralysis. The infusion is made by pouring a pint of boiling water on 1 oz. of the bruised root, letting it stand till cold, and then straining; half a wineglassful to a wineglassful may be taken two or three times a day. The tincture is nearly five times the strength of the infusion, and is made with proof spirit; and the compound tincture is made in like proportion, but with aromatic spirit of ammonia in place of the spirit of wine, which makes it more stimulating. Of these the dose is from 1 to 2 drms.

VERATRINE—VERATRIA—is a peculiar and powerful vegetable alkali, used with much effect in neuralgia, especially tic-douloureux. It is used in the form of ointment, made by rubbing up 20 grs. of veratrine, to which a few drops of spirit of wine are added, with 1 oz. of lard.

VINEGAR (ACETUM).—This has an astringent and refrigerant action. Used as a gargle for common sore throat, especially in combination with a little alum, or the steam may be inhaled. Hot vinegar may be used as a fomentation in cases of bruises and sprains. In febrile and malignant complaints, vinegar diluted with warm or cold water in equal proportion may be used to sponge over the body.

VINEGAR OF CANTHARIDES.—This is used for the purpose of counter-irritation; applied freely and repeatedly with a camel-hair brush it will raise a blister, especially in a young child; and it is safe and speedy in its action.

WATER.—Distilled water is the purest; where this is not available, rain-water may be substituted, or even water that has been recently boiled and suffered to settle.

WINE OF ALOES is very beneficial in gont, dyspepsia, &c. It is made with 1 oz. aloes (powdered), $\frac{1}{4}$ oz. canella (powdered) to 1 pint of sherry wine, given in doses of from 1 drm. to 1 oz., according to its effect.

WINE OF IPECACUANHA.—This is a convenient form of administering the medicine, especially to young children. Being very mild in its action, this

constitutes the best emetic for infants, in doses of from half a teaspoonful to a teaspoonful. It is a common ingredient for coughs and fever medicines. Ipecacuanha wine is made of the strength of $1\frac{1}{4}$ oz. of the bruised root to a pint of sherry (*see* F. 79, 88, 119, 120).

WORMWOOD (ABSINTHIUM) is an excellent stomachic tonic in dyspepsia and nervous debility; it is also a good medicine for the prevention and cure of worms, given in the form of infusion, which can be made by pouring a pint of boiling water on 1 oz. of the plant; this should stand four hours, and then be strained off. From half a wineglassful to a wineglassful taken twice or three times a day.

ZINC, SULPHATE OF—WHITE VITRIOL.—Internally administered, in doses of from 10 to 20 grs., repeated at intervals of ten minutes until it takes effect, this medicine is a prompt and efficient emetic, and as such it is peculiarly available when opium or any other narcotic poison has been taken. In small doses of from 1 to 5 grs. twice a day, sulphate of zinc has a tonic and astringent effect, for which it has been much used in nervous complaints, especially chorea and epilepsy. It has also been recommended in chronic dysentery. Used externally, sulphate of zinc has an astringent action, and is much used in lotions and injections, in the proportion of 3 to 10 grs. to the ounce.

ZINC, OXIDE OF—may be used for the same purposes as the sulphate of zinc. It is very useful as a mild astringent for external use, either in the form of ointment, which is made in the proportion of 1 drm. to 1 oz. of lard, or of lotion, which can be prepared by the addition of 2 drms. of the oxide to $\frac{1}{2}$ pint of rose-water. (F. 62.)

PRESCRIPTIONS.

ALTERATIVES are those medicines which, by imperceptible degrees, alter the action of the animal economy, and even produce a slow and gradual change in the bodily organization; they are supposed to exert an especial influence on the blood. The principal alteratives are mercury, iodine, arsenic, sulphur, alkalis, mineral acids, taraxacum, sarsaparilla, cod-liver oil. In some sense all medicines may be called alteratives, as affecting the general state of the system, but the above-mentioned ones, when duly administered, act in a hidden and silent manner, and their medicinal influence will only be recognised by their ultimate effect.

F. 1.—ALTERATIVE PILLS.

Blue pill, 20 grs.
Extract of hemlock, 20 grs.
Powder of ipecacuanha, 10 grs. Mix.

Divide into twelve pills. One to be taken every night. This is an excellent alterative form in chronic complaints, especially of the digestive organs.

F. 2.—ALTERATIVE PILLS.

Blue pill, 12 grs.
Powder of rhubarb, 24 grs.
Castile soap, 12 grs. Mix.

Divide into twelve pills. One to be taken night and morning.

F. 3.—ALKALINE MERCURIAL ALTERATIVE.

Calomel, 3 grs.
Dry carbonate of soda, 1 dr. Mix well.

Divide into six powders. One to be taken every night, or night and morning.

F. 4.—ALTERATIVE FEVER POWDER.

Calomel, 3 to 5 grs.
James's powder, 3 to 5 grs. Mix.

To be taken at bed-time, and followed by an aperient in the morning.

F. 5.—ALTERATIVE DROPS.

Solution of bichloride of mercury,
Fluid extract of sarsaparilla,
Syrup of sarsaparilla, of each 1 oz. Mix.

Half a teaspoonful twice or three times a day for a child twelve months old; from two to four for an adult.

F. 6.—ALTERATIVE ACID DROPS.

Nitric acid,
Hydrochloric or muriatic acid, of each
1 drm.
Distilled water, 1 oz. Mix.

Ten to twenty drops to be taken twice a day in any bitter infusion, such as that of gentian.

F. 7.—ALTERATIVE DROPS.

Iodide of potassium, 1 drm. to 2 drms.
Liquid extract of sarsaparilla, 3 ozs. Mix.

One teaspoonful three times a day in a little water.

F. 8.—ALTERATIVE ALKALINE MIXTURE.

Calcined magnesia, 1 drm.
Solution of potash, 1 drm.
Oil of peppermint, 3 drops.
Lime water, 8 ozs. Mix.

One sixth part to be taken twice a day.

F. 9.—ALKALINE PILLS.

Dried carbonate of soda, 30 grs.
Powder of rhubarb, 10 grs.
Extract of hemlock, 20 grs. Mix.

Divide into twelve pills. One to be taken three times a day.

F. 10.—ANTI-RHEUMATIC POWDER.

Powder of gum guaiacum, 2 drms.
Flowers of sulphur, 4 drms.
Powder of ginger, 1 drm. Mix.

Divide into twelve powders. Take one three times a day.

F. 11.—ALKALINE ALTERATIVE MIXTURE.

Solution of potash, $2\frac{1}{2}$ drms.
Tincture of horseradish, 6 drms.
Compound infusion of gentian, 7 ozs.
Mix.

Half a wineglassful twice a day.
Of much service in cases of debility of stomach and indigestion.

F. 12.—OXIDE OF SILVER PILLS.

Oxide of silver, 6 to 12 grs.
Powder of ipecacuanha, 6 grs.
Extract of henbane, $\frac{1}{2}$ drm. Mix.

Divide into twelve pills. One twice or three times a day.

Useful in dyspepsia, uterine complaints, and epilepsy.

ANODYNES are those medicines which relieve pain. They seem to deaden the sensitive power of the nerves; probably they act in some measure by producing some change in the blood. The chief anodynes are opium and morphine, sulphuric and chloric æther, aconite, henbane, and hop.

F. 15.—ANODYNE MIXTURE.

Solution of acetate of morphine, 1 drm.
Chloric æther, 1 drm.
Syrup of roses, $\frac{1}{2}$ oz.
Camphor mixture, to 4 oz. Mix.

One quarter part for a dose.
Taken at bed-time it will relieve pain and induce sleep.

F. 16.—ANODYNE PILLS.

Chloride of morphine, 2 to 3 grs.
Extract of henbane, 12 grs. Mix.

Divide into six pills. One at bed-time.
Powerful to relieve pain and irritation.

F. 17.—ANODYNE SALINE.

Tincture of opium, 1 drm.
Sulphate of magnesia, 6 drms.
Cinnamon water, 6 ozs. Mix.

Half a wineglassful every two or four hours.

To relieve pain in an irritable state of bowels.

F. 18.—ANODYNE DRAUGHT.

Tincture of hop, 1 drm.

F. 13.—ALTERATIVE POWDERS FOR INFANTS.

Mereury with chalk,
Carbonate of soda,
Powder of rhubarb, of each 10 grs.
Compound cinnamon powder, 6 grs. Mix.

Divide into six powders. One every night.

Very useful when the digestive organs are out of order.

F. 14.—ALTERATIVE POWDERS.

Powdered borax, from 3 to 5 grs.
Powder of rhubarb, 1 gr. Mix.

One of these powders night and morning.

These will be of service when the bowels are torpid and there is general inactivity of the system.

Tincture of henbane, $\frac{1}{2}$ drm.
Syrup of poppies, 1 drm.
Camphor mixture, 1 oz. Mix.

To be taken at bed-time.
To allay irritation and restlessness.

F. 19.—ANODYNE LINIMENT.

Soap liniment, 1 oz.
Spirit of camphor,
Tincture of opium, of each $\frac{1}{2}$ oz. Mix.

The liniment to be used two or three times a day.

A good application for painful bruises and strains, and also for rheumatic affections.

F. 20.—ANODYNE EMBROCATION.

Tincture of aconite, $\frac{1}{2}$ oz.
Soap liniment, $1\frac{1}{2}$ oz. Mix.

The embrocation to be applied night and morning.

An excellent application in rheumatic and neuralgic complaints.

ANTHELMINTICS are those medicines which destroy worms, or remove them from the alimentary canal. The chief ones are pomegranate bark, the root or oil of the male fern, kousso, turpentine, gentian. Purgatives act as anthelmintics, by causing the expulsion of worms, especially those of more drastic character, such as jalap, scammony, calomel. Steel medicines have much effect in preventing the regeneration of worms when once destroyed.

ANTISPASMODICS are such medicines as allay violent or irregular muscular contraction, whether accompanied by pain or not. Their action may be more

sedative in its nature, as that of morphine, belladonna, stramonium, chloroform, and antimony; or they may have a stimulant influence, as that of ammonia, camphor, valerian, guaiacum, and the various spices. Opium and alcoholic liquids have a mixed antispasmodic action, partly sedative and partly stimulant. Warmth and moisture combined have a peculiar antispasmodic influence.

F. 21.—ANTISPASMODIC DRAUGHT.

Compound tincture of rhubarb, $\frac{1}{2}$ oz.
Tincture of opium, 12 drops.
Aromatic spirit of ammonia, $\frac{1}{2}$ drin.
Peppermint water, 1 oz. Mix.

This may be taken in cases of colic, where there is tendency to diarrhœa.

F. 22.—ÆTHEREAL MIXTURE.

Compound spirit of sulphuric æther, 3 drms.
Syrup of ginger, $\frac{1}{2}$ oz.
Compound tincture of cardamoms, $\frac{1}{2}$ oz.
Camphor mixture, to 6 ozs. Mix.

Half a wineglassful for a dose, in cases of internal cramp and spasm.

F. 23.—ANTISPASMODIC MIXTURE.

Tincture of assafœtida,
Tincture of castor, of each 3 drms.
Compound spirit of sulphuric æther, 2 drms.
Cinnamon water, to 6 oz. Mix.

Half a wineglassful for a dose, to be taken every few hours, in hysterical cases and flatulency.

F. 24.—ANTISPASMODIC ENEMA.

Assafœtida, 2 drms., or
Tincture of assafœtida, from 1 to 2 oz.
Thin gruel, $\frac{1}{2}$ pint to 1 pint. Mix.

If the assafœtida itself be used, it requires to be well bruised and rubbed up with a little water in the first instance, and then strained through coarse muslin.

Useful in cases of colic and flatulency.

F. 25.—HYSTERICAL MIXTURE.

Compound tincture of valerian, 1 oz.
Chloric æther, $1\frac{1}{2}$ drin.
Camphor mixture, to 8 ozs. Mix.

Half a wineglassful for a dose, in nervous cases.

F. 26.—ANTISPASMODIC MIXTURE FOR ASTHMA.

Æthereal tincture of lobelia,
Tincture of henbane, of each 2 drms.
Syrup of tolu, 1 oz.
Camphor mixture, to 8 ozs. Mix.

Half a wineglassful three times a day.

This is very efficient in relieving asthmatic paroxysms.

F. 27.—ANTISPASMODIC PILLS.

Powder of myrrh,
Powder of camphor,
Extract of henbane, of each 20 grs. Mix.

Divide into twelve pills. One twice or three times a day, in palpitation of the heart and many female complaints.

F. 28.—STIMULANT AND COMFORTING MIXTURE

(FOR CHILDREN).

Chloric æther, 10 drops.
Tincture of henbane, 1 drin.
Calcined magnesia, 20 grs.
Syrup, $\frac{1}{2}$ oz.
Caraway water, to $1\frac{1}{2}$ oz. Mix.

One teaspoonful for a dose, where there is irritation and griping of the alimentary canal.

APERIENTS are those medicines which move the bowels gently: they rouse secretion and peristaltic action, but cause evacuation without much disturbance; they often exert a stimulating influence on the liver, and the flow of bile helps to excite the intestines to healthy action. Thus aperients carry off the residual contents of the alimentary canal, the undue and lengthened presence of which serves to occasion irritation in the system, and they promote the derivation from the blood which is necessary for the well-being of the economy.

F. 29.—APERIENT PILLS.

Powder of compound extract of colocynth,
Powder of extract of rhubarb,
Powder of extract of jalap,
Castile soap, of each 20 grs.
Oil of cloves, 5 drops. Mix.

Divide into twenty pills. One or two for a dose.

F. 30.—STIMULATING APERIENT PILLS.

Extract of aloes, 30 grs.
Castile soap, 20 grs.
Oil of cloves, 3 drops. Mix.

Divide into twelve pills. One or two for a dose.

These will act well where there is a debilitated and relaxed state of the system.

F. 31.—MILD APERIENT PILLS.

Powder of compound extract of colocynth,
Extract of rhubarb,
Extract of henbane, of each 20 grs. Mix.

Divide into fifteen pills. One or two for a dose.

Well adapted for the pregnant state.

F. 32.—WARM APERIENT PILLS.

Powder of aloes,
Powder of gum guaiacum, of each 40 grs.

Powder of camphor, 15 grs.
Extract of henbane, $\frac{1}{2}$ drm. Mix.

Divide into thirty pills. Two to be taken when required.

These pills are suitable for young females where there is a torpid state of system.

F. 33.—PILLS FOR A COLD.

Acetous extract of colchicum,
Powder of ipecacuanha, of each 6 grs.
James's powder, 12 grs.
Compound colocynth pill,
Castile soap, of each 15 grs. Mix.

Divide into twelve pills. Two for a dose at bed-time.

F. 34.—WARM LAXATIVE PILLS.

Gum assafoetida powdered,
Powder of aloes,
Soft soap, of each 20 grs.
Oil of peppermint, 4 drops. Mix.

Divide into twelve pills. One two or three times a day between meals, when the bowels are torpid or irregular.

F. 35.—TONIC AND LAXATIVE PILLS.

Extract of aloes,
Powder of ginger, of each 20 grs.
Powder of ipecacuanha, 6 grs.
Castile soap, 16 grs.
Oil of chamomile, 5 drops. Mix.

Divide into sixteen pills. One to be taken once, twice, or three times a day.

F. 36.—APERIENT AND ANTIBILIOUS PILLS.

Compound colocynth pill, 40 grs.
Blue pill, 20 grs. Mix.

Divide into twelve pills. One or two for a dose at bed-time.

These will be found a mild and efficient aperient when imperfect alvine evacuation is associated with biliary inaction.

F. 37.—APERIENT AND ALTERATIVE PILLS.

Compound colocynth pill, 40 grs.
Blue pill, 12 grs.
James's powder, 12 grs. Mix.

Divide into twelve pills. Two for a dose at bed-time.

A mild but efficient form.

F. 38.—MILD APERIENT AND ALTERATIVE PILLS.

Blue pill, 12 grs.
Powder of ipecacuanha, 6 grs.
Powder of extract of colocynth,
Extract of henbane, of each 15 grs. Mix.

Divide into twelve pills. One or two for a dose.

An excellent form for delicate female constitutions when an alterative is required, especially during pregnancy.

F. 39.—APERIENT ELECTUARY.

Confection of senna, 2 ozs.
Flowers of sulphur,
Bitartrate of potash, of each $\frac{1}{2}$ oz.
Powder of ginger, 1 drm. Mix.

One teaspoonful for a dose to be taken at bed-time, or early in the morning.

A serviceable medicine in cases of piles, and in pregnancy.

F. 40.—APERIENT AND ALTERATIVE ELECTUARY.

Treacle, 4 ozs.
Flowers of sulphur, 1 oz.
Cream of tartar, 1 oz.
Powder of ginger,
Powder of jalap, of each $\frac{1}{4}$ oz. Mix.

One or two teaspoonfuls for a dose.

A good aperient for children, or those unable to swallow pills.

F. 41.—CASTOR OIL DRAUGHT.

Castor oil, 6 drms.

To be beaten well up with one-third or one-half the yolk of an egg, and then add gradually

Cinnamon water, 1 oz. Mix.

F. 42.—MILD APERIENT MIXTURE.

Manna, 1 oz.
Tincture of senna,
Syrup of ginger, of each 1 oz.
Potassio-tartrate of soda, 6 drms.
Compound infusion of senna, to 8 oz. Mix.

Half a wineglassful to a wineglassful for a dose.

F. 43.—STIMULATING APERIENT MIXTURE.

Powder of rhubarb,
Carbonate of soda, of each 1 drm.
Carbonate of ammonia, 25 grs.
Syrup of ginger, 1 oz.
Cinnamon water, to 6 ozs. Mix.

One quarter part for a dose.

A good aperient when the stomach is torpid and out of order.

F. 44.—MILD APERIENT DRAUGHT.

Powder of rhubarb, 20 to 25 grs.
Tartrate of potash, 2 drms.
Syrup of ginger, 2 drms.
Peppermint water, 1 oz. Mix.
To be taken in the morning fasting.

F. 45.—COMPOUND RHUBARB DRAUGHT.

Powder of rhubarb,
Calcined magnesia, of each 20 grs.
Powder of ginger, 6 grs.
Aromatic spirit of ammonia, $\frac{1}{2}$ drm.
Syrup of orange peel, 2 drms.
Peppermint water, to 1 $\frac{1}{2}$ oz. Mix.

An excellent form for a disordered stomach.

F. 46.—SALINE ALKALINE APERIENT.

Sulphate of magnesia, $\frac{1}{2}$ oz.
Carbonate of magnesia, 1 drm.
Syrup of ginger, $\frac{1}{2}$ oz.
Caraway water, to 6 ozs. Mix.

One-quarter part for a dose.

Mild and gentle in its action.

F. 47.—APERIENT AND STOMACHIC MIXTURE.

Compound infusion of senna, 4 ozs.
Compound infusion of gentian, 3 ozs.
Compound tincture of cardamons, 1 oz. Mix.

Half a wineglassful to a wineglassful to be taken twice a-day, in weak and inactive states of the digestive organs.

F. 48.—MILD APERIENT

(FOR CHILDREN).

Tartrate of potash, $\frac{1}{2}$ oz.
Manna, 1 oz.
Syrup of ginger, $\frac{1}{2}$ oz.
Infusion of rhubarb, to 4 oz. Mix.

From two teaspoonfuls to two tablespoonfuls for a dose.

F. 49.—APERIENT MEDICINE

(FOR CHILDREN).

Powder of rhubarb,
Calcined magnesia, of each 1 drm.
Syrup of senna, 1 oz.
Caraway water, to 6 ozs. Mix.

From two teaspoonfuls to two tablespoonfuls for a dose.

F. 50.—APERIENT AND ALTERATIVE POWDERS.

Mercury with chalk,
Powder of rhubarb, of each 15 grs.
Compound cinnamon powder, 12 grs. Mix.

To be divided into eight, six, or four powders, according to the age of the child, from six months to five years.

F. 51.—INFANTS' APERIENT MIXTURE.

Infusion of rhubarb, 1 oz.
Syrup of ginger, 2 drms.
Calcined magnesia, $\frac{1}{2}$ drm. Mix.

One or two teaspoonfuls for a dose, to be repeated if required.

F. 52.—APERIENT MIXTURE

(FOR YOUNG CHILDREN).

Manna, $\frac{1}{2}$ oz.
Calcined magnesia, $\frac{1}{2}$ drm.
Tincture of senna,
Syrup of senna, of each $\frac{1}{2}$ oz.
Compound infusion of senna, 1 oz. Mix.

One, two, or three teaspoonfuls for a dose.

ASTRINGENTS are those medicines which are capable of producing contraction and condensation in certain of the animal tissues. They tend to cause constriction of the minute vessels, and a kind of coagulative action in some of the elements of the blood. Thus they restrain hæmorrhage, whether dependent on rupture of the small blood tubes, or on want of power in their extremities; and thus they check excessive secretory discharge when connected with debility and relaxation of the capillaries. Astringents are derived partly from the mineral and partly from the vegetable kingdom, and in the latter case their virtue appears to depend on the amount of tannin or gallic acid present.

F. 53.—ASTRINGENT MIXTURE.

Infusion of rhatany, 6 ozs.
Tincture of catechu, 1 oz.
Syrup, 1 oz. Mix.

Half a wineglassful every four hours.
This may be taken in dysentery, or profuse discharges of any kind.

F. 54.—ASTRINGENT MIXTURE.

Sulphate of alum, 1 dr.
Compound infusion of roses, 5 ozs.
Syrup, 1 oz. Mix.

Half a wineglassful every four hours.
This may be taken in cases of hæmorrhage.

F. 55.—ASTRINGENT ACID MIXTURE.

Diluted sulphuric acid, 3 drms.
Syrup of roses, 1 oz.
Pure water, 7 ozs. Mix.

Half a wineglassful every four or six hours.

This can be given in cases of hæmorrhage, and given very frequently will relieve some forms of diarrhœa.

F. 56.—ASTRINGENT MIXTURE.

Spirit of turpentine, 2 drms.
Mixture of acacia, 2 ozs.
Syrup of orange-peel, 1 oz.
Cinnamon water, to 6 ozs. Mix.

Half a wineglassful every four or six hours.

This is efficacious in hæmorrhage from the bowels or urinary organs.

F. 57.—ASTRINGENT LEAD MIXTURE.

Acetate of lead, 15 grs.
Distilled vinegar, 2 drms.
Tincture of opium, 1 drm.
Peppermint water, to 6 oz. Mix.

Half a wineglassful every four hours.
Efficacious in any case of severe hæmorrhage.

F. 58.—ASTRINGENT PILLS.

Acetate of lead, 12 grs.
Extract of liquorice, 15 grs. Mix.

Divide into six pills; one every four or six hours.

This is valuable in bleeding from the lungs and stomach.

F. 59.—EYE-WATER.

Alum,
Sulphate of zinc, of each 10 grs.
Elder-flower water, 4 ozs. Mix.

The lotion to be used frequently.
This will be beneficial where the eyes are weak, and slightly inflamed.

F. 60.—ASTRINGENT GARGLE.

Decoction of bark, 7 ozs.
Honey, 1 oz.
Alum, 2 drms. Mix.

To be used frequently.
Useful in relaxed and ulcerated sore throat, where there is not much inflammation.

F. 61.—STRONG ASTRINGENT LOTION.

Bruised oak-bark, 1 oz.
Water, 1½ pint.
Boil down to one pint; then strain, and add
Alum, 2 drms.
Spirit of wine, 2 ozs. Mix.

Useful as an injection in some female complaints, and in hæmorrhage from the lower bowel.

F. 62.—ASTRINGENT AND COOLING OINTMENT.

Oxide of zinc, 1 drm.
Solution of acetate of lead, 2 drms.
Spermaceti ointment, or
Lard or fresh butter, 1 oz. Mix.

This is an useful cooling preparation, applicable in any slight inflammation or irritation of the surface.

CATHARTICS are those medicines which excite the bowels to free action, both as regards the muscular movement and the secretive function. Thus they not only promote and accelerate the due fecal evacuation, but they stimulate the intestines to powerful peristaltic contraction, and the mucous membrane and various glands connected with the digestive apparatus to an abundant discharge of fluids. By these means a considerable amount of local irritation is set up in the extensive surface of the alimentary canal, which may counteract morbid excitement elsewhere, and cause a derivation to take place from the blood, which will tend to alter any unhealthy constitution thereof, or occasion the separation and excretion of any morbid material that it may contain.

F. 63.—STRONG PURGATIVE
POWDER.

Powder of jalap or of rhubarb, 25 grs.
Calomel, from 3 to 5 grs.
Powder of ginger, 5 grs. Mix.

An active dose.

F. 64.—PURGATIVE OR WORM
POWDER.

Compound scammony powder, 20 grs.
Calomel, 3 grs.
Sulphate of potash, 20 grs. Mix.

This powder is for an adult; one quarter the quantity should be given to a child about five years of age; to be taken fasting.

F. 65.—STRONG CATHARTIC
POWDER.

Compound jalap powder, 1 drm.
Calomel, 3 grs. Mix.

A good hydragogue purgative.

F. 66.—STRONG CATHARTIC
PILLS.

Compound colocynth pill, 8 grs.
Calomel, 2 grs. Mix.

The pills to be taken at bed-time.

F. 67.—GOUT PILLS.

Powdered aloes,
Calomel,
Soft soap,
Aetuous extract of colechieum, of each
20 grs.
Powder of capsicum, 10 grs. Mix.

One every four hours, till the bowels act very freely.

F. 68.—BLACK DRAUGHT.

Sulphate of magnesia, $\frac{1}{2}$ oz.
Tincture of senna, 1 drm.
Syrup of senna, 2 drms.
Aromatic spirit of ammonia, $\frac{1}{2}$ drm.
Compound infusion of senna, to $1\frac{1}{2}$ oz.
Mix.

The draught early in the morning, especially if any calomel or blue pill have been taken over-night.

F. 69.—CATHARTIC MIXTURE.

Tincture of senna,
Syrup of buckthorn, of each 1 oz.
Aromatic spirit of ammonia, 2 drms.
Sulphate of soda or Glauber's salt, 1 oz.

Compound infusion of senna, to 6 ozs.
Mix.

One quarter part for a dose.
A powerful purgative.

F. 70.—STRONG PURGATIVE
MIXTURE.

Powder of jalap, 40 grs.
Tartrate of potash, 1 oz.
Tincture of senna, 1 oz.
Syrup of ginger, $\frac{1}{2}$ oz.
Compound infusion of senna, to 6 ozs.
Mix.

One quarter part for a dose.

F. 71.—CROTON OIL MIXTURE.

Croton oil, 6 drops.
Carbonate of potash, 1 drm.
Mixture of acacia, 1 oz.
Cinnamon water, 2 ozs. Mix.

One tablespoonful every four or six hours, until free action of the bowels takes place.

A powerful purgative, which may be used when there is obstinate constipation not depending on inflammation.

F. 72.—CROTON OIL PILLS.

Croton oil, 6 drops.
Powder of ginger,
Castile soap, of each 12 grs. Mix.

Divide into six pills.

One to be taken every two or four hours, until the bowels act freely.

F. 73.—CATHARTIC POWDERS
(FOR CHILDREN).

Powder of jalap,
Powder of scammony,
Sulphate of potash, of each 12 grs.
Compound cinnamon powder, 8 grs.
Mix.

Divide into six powders. These will be found of sufficient strength for a child of about twelve months old.

F. 74.—STRONG PURGATIVE
POWDERS
(FOR CHILDREN).

Calomel, 6 grs.
Powder of scammony,
Powder of rhubarb,
Powder of jalap, of each 10 grs.
Compound powder of cinnamon, 6 grs.
Mix.

Divide into six powders. Sufficiently strong for a child of about two years old.

Under the heads of aperients and cathartics, a few useful prescriptions for purgatives, applicable in different cases, have been given, and under the head of different simple medicines, such as aloes, jalap, scammony, gamboge, senna, Epsom salts, &c.,

numerous other forms will be found; but, for habitual use, opening medicine, whether mild or more powerful in its nature, must be adapted to the peculiarity of constitution and morbid tendencies of each individual. Thus the compound colocynth pill, the compound rhubarb pill, and senna and salts mixture, are good ordinary aperients. Castor oil is generally mild and efficient in its action. Salines may be suitable, and Seidlitz powders may constitute an agreeable form. The compound decoction and compound tincture of aloes are well adapted for cold phlegmatic constitutions, which require warm stimulating aperients, and the various forms of aloetic pills may be advantageously resorted to where the large bowels are torpid and sluggish. In all classes of remedies, a judicious combination of different drugs is generally found to possess more efficacy than any individual one singly, and this is more the case in respect of cathartic medicines than any other.

Purgative medicines are often too freely resorted to, being taken habitually on the slightest occasion, which causes much constitutional irritation, and tendency to disease. There should always be regular action of the bowels, and where there is an inclination to constipation, an occasional aperient may be resorted to, but we must endeavour to promote and maintain its influence by the regulation of exercise and diet. The purgative dose should be as mild as possible, and on no account be drastic or powerful, or it will tend to occasion the speedy recurrence of the costive state. When prompt action on the bowels is desirable, the medicine should be taken in a state of considerable dilution early in the morning, on an empty stomach. When the medicine is slow in action, like aloes, or an alterative mercurial action is desired as an accompaniment, then the medicine should be taken at bed-time, and when the alimentary canal is weak and irritable, and requires gentle stimulation only, then immediately before or after a meal is the most advisable time for the administration of an aperient.

DIAPHORETICS are those medicines which excite the action of the skin, and promote perspiration. Antimony, in the form of tartar emetic or James's powder, appears to act by its sedative and relaxing power, but all other diaphoretic medicines have a special stimulating influence, exerted through the medium of the blood. The chief of these, acting singly or in combination, are carbonate of ammonia, acetate of ammonia, or Mindererus' spirit, spirit of nitric æther, ipecacuanha, opium, and mercury. Warm baths and warm diluent drinks also have a diaphoretic influence, but there can be no doubt that perspiration may often be obtained still more readily by the hydropathic wet sheet, and cold water drank freely, than by any other means. During the medicinal process of sweating, the patient should remain between blankets, and be well covered up.

F. 75.—SEDATIVE DIAPHORETIC MIXTURE.

James's powder, $\frac{1}{2}$ drm. to 40 grs.
Syrup of tolu, 1 oz.
Spirit of nitric æther, 2 drms.
Mixture of acacia, 2 ozs.
Camphor mixture, to 8 ozs. Mix.

Half a wineglassful every four hours, in febrile complaints.

F. 76.—DIAPHORETIC ANTIMONIAL MIXTURE.

Antimonial wine, $\frac{1}{2}$ oz.
Nitrate of potash, 40 grs.
Spirit of nitric æther, 2 drms.
Syrup of saffron, 1 oz.
Camphor mixture, to 8 ozs. Mix.

Half a wineglassful every four hours.
Well adapted for inflammatory affections of the lungs.

F. 77.—ANODYNE AND DIAPHORETIC DRAUGHT.

Tincture of opium, 20 drops.

Spirit of nitric æther, $\frac{1}{2}$ drm.
Solution of acetate of ammonia, $\frac{1}{2}$ oz.
Syrup of saffron, 1 drm.
Camphor mixture, to $1\frac{1}{2}$ oz. Mix.

The draught to be taken at bed-time, in feverish colds, after due aperient action.

F. 78.—SALINE DIAPHORETIC DRAUGHT.

Solution of acetate of ammonia, 6 drms.
Spirit of nitric æther, $\frac{1}{2}$ drm.
Antimonial wine, $\frac{1}{2}$ drm.
Syrup of poppies, 2 drms.
Water, to $1\frac{1}{2}$ oz. Mix.

The draught to be taken at bed-time, in bad colds.

F. 79.—CORDIAL DIAPHORETIC MIXTURE.

Aromatic spirit of ammonia, 2 drms.
Compound spirit of sulphuric æther, 2 drms.
Wine of ipecacuanha, $1\frac{1}{2}$ drm.

Syrup of poppies, $\frac{1}{2}$ oz.
Camphor mixture, to 6 ozs. Mix.

Half a wineglassful every four hours.

In low influenza and colds this will be found useful.

F. 80.—DIAPHORETIC POWDER.

Powder of camphor,

James's powder, of each 3 grs.

Compound ipecacuanha powder, 5 grs.
Mix.

The powder to be taken at bed-time.

Available in influenza after due aperient action.

DIURETICS are those medicines which have the power of stimulating the kidneys to action, so as to cause an increased secretion of urine. The chief of these are the nitrate, carbonate, acetate, and bitartrate of potash, the spirit of nitric ether, digitalis, broom, squill, juniper, or borax. Most purgatives will, in the first instance, excite the kidneys to increased action, and mercury exerts some power over them, as well as all other secreting organs.

F. 81.—DIURETIC MIXTURE.

Compound decoction of broom, $7\frac{1}{2}$ ozs.

Spirit of nitric ether, 3 drms.

Tincture of digitalis, 1 drms.

Acetate of potash, 4 drms. Mix.

Half a wineglassful every four hours.

A good medicine in general dropsy.

F. 82.—DIURETIC MIXTURE.

Nitrate of potash, 40 grs.

Bicarbonate of potash, $1\frac{1}{2}$ drms.

Tincture of digitalis, 2 drms.

Vinegar of squills,

Spirit of nitric ether, of each 3 drms.

Compound infusion of gentian, to 8 ozs.

Mix.

Half a wineglassful every four or six hours, in general dropsy, where there is much debility.

F. 83.—STIMULATING DIURETIC MIXTURE.

Tincture of cantharides, $1\frac{1}{2}$ drms.

Spirit of nitric ether, 2 drms.

Compound spirit of juniper,

Oxymel of squills, of each 1 oz.

Camphor mixture, to 8 ozs. Mix.

Half a wineglassful three times a day, in chronic dropsies.

F. 84.—DIURETIC DROPS.

Oil of juniper, 21 drops.

Compound spirit of horseradish, 1 oz.

Tincture of squills,

Syrup of saffron, of each $\frac{1}{2}$ oz. Mix.

One teaspoonful two or three times a day, in a little barley-water, in dropsical swellings of old people.

F. 85.—DIURETIC PILLS.

Calomel, 12 grs.

Powdered squill,

Castile soap,

Powder of ginger, of each 20 grs. Mix.

Divide into fifteen pills. One to be taken twice or three times a day, in abdominal dropsy.

F. 86.—DIURETIC POWDERS.

Bitartrate of potash, 3 drms.

Powder of ginger, $\frac{1}{2}$ drms.

Powder of squills, 20 grs. Mix.

Divide into six powders. One to be taken twice or three times a day.

Serviceable in inflammatory dropsy.

EMETICS.—Some medicines have the power of causing vomiting by the irritation they produce when taken into the stomach; such are sulphate of zinc, sulphate of copper, mustard, squill, and ipecacuanha. Sickness may also be produced in a different manner, through a peculiar influence exerted on the nervous system. Thus it may arise from violent swinging or turning round, as a consequence of concussion of the brain, and the motion of a vessel at sea is a well-known occasion of it. So it is in a great measure with antimony. Tartar emetic causes sickness by its influence on the brain, on which the stomach re-acts, and not so much from the direct irritation of the stomach itself. Thus an antimonial emetic is always lowering and relaxing in its effects, which must be borne in mind when it is administered. When an emetic is made use of, warm diluent drinks should be given as soon as retching begins, and will then facilitate the act of vomiting, and render it less painful, but they should not be resorted to until sickness commences, as otherwise they may interfere with, if not prevent emetic action.

F. 87.—EMETIC MIXTURE.

Powder of ipecacuanha, 1 drm.
Antimonial wine, 3 ozs.
Mint water, 3 ozs. Mix.

For an adult, one tablespoonful every ten minutes, until sickness is caused; one teaspoonful for an infant, and in proportion for an older child.

F. 88.—STIMULATING EMETIC
(FOR YOUNG CHILDREN).

Ipecacuanha wine,
Oxymel of squills,
Caraway water, of each 1 oz. Mix.

From one teaspoonful to a tablespoonful every ten minutes, till it occasions sickness.

Useful in whooping cough or severe cold.

EMMENAGOGUES are those medicines which serve to occasion or promote the periodical uterine action. Ergot of rye seems to be the only medicine which has a special direct power over the womb, but many appear to have a partial influence in respect to it, such as aloes, iron, savine, cantharides, and assafœtida.

F. 89.—ALOES AND IRON PILLS.

Powder of aloes,
Powder of myrrh,
Powdered sulphate of iron,
Extract of gentian, of each 20 grs.
Oil of pennyroyal, 5 drops. Mix.

Divide into twenty pills. One three times a day.

An excellent form in indolent phlegmatic habits, where uterine obstruction exists.

F. 90.—EMMENAGOGUE PILLS.

Powder of aloes, 20 grs.
Powder of gum guaiacum, 40 grs.
Extract of henbane, 30 grs. Mix.

Divide into twenty pills. One three times a day.

In irritable and weakly constitutions, where the monthly flow is irregular and imperfect, these pills will be found very useful.

F. 91.—EMMENAGOGUE POW-
DERS.

Powder of camphor, 10 grs.
Powdered borax, 1 drin.
Sesquioxide of iron, 2 drms. Mix.

Divide into six powders. Take one twice a day.

Useful when there is uterine inaction, with debility.

F. 92.—EMMENAGOGUE MIX-
TURE.

Ammoniated tincture of valerian, 1 oz.
Decoction of aloes, 3 ozs.
Compound infusion of gentian, to 8 ozs.
Mix.

Half a wineglassful twice or three times a day, where there is much constitutional debility and want of tone.

EXPECTORANTS are such medicines as excite the lining membrane of the lungs, so as to promote secretion, thereby relieving states of congestion, and at the same time they stimulate the muscular structure to action, so as to cause the expulsion of the mucus which has been poured out, which would otherwise accumulate, and materially interfere with the respiratory process. The chief expectorants are ipecacuanha, squills, ammoniacum, and senega.

F. 93.—STIMULATING EXPEC-
TORANT MEDICINE.

Vinegar of squills,
Ipecacuanha wine, of each $\frac{1}{2}$ oz.
Honey,
Syrup of poppies,
Mixture of acacia, of each 1 oz. Mix.

This may be taken frequently; two teaspoonfuls for an adult, and one for a child, where there is cough, with much accumulation of phlegm.

F. 94.—COUGH DROPS.

Oxymel of squills,
Compound tincture of camphor,
Ipecacuanha wine, of each 1 oz. Mix.

For a young child half a teaspoonful,

and for an adult two teaspoonfuls for a dose, to be taken occasionally.

Useful in old asthmatic coughs especially.

F. 95.—ASTHMATIC MIXTURE.

Mixture of ammoniacum, $6\frac{1}{2}$ ozs.
Oxymel of squills, 1 oz.
Compound tincture of camphor, $\frac{1}{2}$ oz.
Mix.

Half a wineglassful twice or three times a day.

Very useful in asthma.

F. 96.—ASTHMATIC PILLS.

Powder of myrrh, 20 grs.
Powder of ipecacuanha, 10 grs.

Extract of hemlock, 20 grs.
Powdered squill, 20 grs. Mix.

Divide into fifteen pills; one twice or three times a day.

F. 97.—PECTORAL PILLS.

Powder of ipecacuanha,
Powder of opium, of each 10 grs.
Compound squill pill, 40 grs. Mix.

Divide into twelve pills; one two or three times a day.

Efficient in relieving pulmonary irritation.

F. 98.—ANTISPASMODIC PILLS.

Assafoetida (powdered),
Benzoic acid,
Powder of ipecacuanha, of each 20 grs.
Extract of henbane, 40 grs. Mix.

Divido into twenty pills; one three times a day.

Beneficial in chronic catarrhs.

NARCOTICS are medicines which procure sleep. The chief ones are opium and morphine, henbane, lettuce, hop, and chloroform. Narcotic influence only forms part of the general sedative power over the nervous system which many medicines possess.

F. 99.—OPIATE PILLS.

Powder of opium,
Powder of ipecacuanha, of each 1 gr.
Powdered camphor,
Extract of henbane, of each 3 grs. Mix.

Divide into two pills; to be taken at bed-time.

F. 100.—NARCOTIC DRAUGHT.

Solution of acetate of morphine, 20 drops.
Tincture of hop, 1 drm.
Syrup of saffron, 1 drm.
Camphor mixture, 1 oz. Mix.

The draught to be taken at bed-time.

SALINES.—Chemically speaking, they consist of combinations of acids with alkalis, and in a medical point of view, they are supposed to have the power of thinning and cooling the blood. When taken up into the circulation they doubtless have some influence on the blood, and in this respect they may almost be termed alteratives, especially if they possess either a special acid or alkaline character. When they exert a purgative influence, it is by attracting the more fluid part of the blood through the mucous membrane of the alimentary canal.

F. 101.—SIMPLE SALINE MIXTURE.

Citric acid,
Bicarbonate of potash, of each 1½ drm.
Spirit of nitric ether, 2 drs.
Syrup of orange-peel, 1 oz.
Camphor mixture, to 12 ozs.

Mix, and let the effervescence subside.
A wineglassful every four hours.
Useful in any febrile complaints.

F. 102.—ALKALINE MIXTURE

(FOR EFFERVESCENT SALINE).

Bicarbonate of potash, 1½ drm., or
Carbonate of soda, 2 drms.
Syrup of orange-peel, 1 oz.
Water, to 6 ozs. Mix.

A small tablespoonful of lemon-juice, in a wineglassful of water, to be mixed with one quarter of the mixture, and drank effervescing every four or six hours. Antimonial wine, sweet spirit of nitre, nitrate of potash, or solution of morphine, can be added to the mixture, if required.

F. 103.—ALKALINE SALINE MIXTURE.

Carbonate of soda, 2 drms.
Spirit of nitric ether,

Tincture of henbane, of each 2 drms.
Syrup of tolu,
Mixture of acacia, of each 1 oz.
Camphor mixture, to 8 ozs. Mix.

Half a wineglassful every four hours.

F. 104.—AMMONIACAL SALINE

(FOR EFFERVESCENT MIXTURE).

Carbonate of ammonia, 1½ drm.
Syrup of orange-peel, 1 oz.
Water, to 8 ozs. Mix.

One-sixth part every four or six hours, with a tablespoonful of lemon-juice, to be drank effervescing.

Available in cases of low fever.

F. 105.—SALINE APERIENT MIXTURE.

Potassio-tartrate of soda, 6 drms.
Carbonate of soda, 1½ drm.
Spirit of nitric ether, 2 drms.
Syrup of saffron, ½ oz.
Mint water, to 8 ozs. Mix.

One-sixth part to be taken every four or six hours.

F. 106.—STOMACHIC & APERIENT SALINE.

Sulphate of magnesia, ½ oz.
Carbonate of soda, 2 drms.

Compound infusion of gentian,
Peppermint water, of each 4 ozs. Mix.

One-sixth part twice or three times
a day.

A cooling stomachic medicine.

F. 107.—ACIDULATED SALINE.

Sulphate of soda (Glauber's salt), $\frac{1}{2}$ oz.
Diluted sulphuric acid, 2 drms.
Syrup of orange-peel, 1 oz.
Compound infusion of rose-leaves, to
8 ozs. Mix.

Half a wineglassful every four hours
in cases of ulcerated sore-throat, hæmor-
rhage, &c.

F. 108.—SALINE DRAUGHT.

Solution of acetate of ammonia, $\frac{1}{2}$ oz.
Nitrate of potash, 6 grs.
Spirit of nitric æther, $\frac{1}{2}$ drm.
Syrup of saffron, 2 drms.
Camphor mixture, 1 oz. Mix.

To be taken at bed-time, for an in-
flammatory cold.

SEDATIVES are those medicines which have the power of depressing the activity and sensibility of the system. Thus they allay irritation, and abate excitement, in various ways, and thereby constitute important remedies in numerous morbid conditions. The influence of the continued application of cold is a good exemplification of sedative power, which may even be carried to the extent of annihilating sensation, paralysing muscular motion, and arresting circulation.

F. 109.—COUGH PILLS.

Extract of hemlock,
Dover's powder, of each $\frac{1}{2}$ drm. Mix.

Divide into twelve pills; one when
the cough is troublesome, or two at bed-
time.

Serviceable in irritable cough.

F. 110.—FEVER MEDICINE.

Sulphate of magnesia, 1 oz.
Antimonial wine, $\frac{1}{2}$ oz.
Sweet spirit of nitre, 3 drms.
Peppermint water, 8 ozs. Mix.

Half a wineglassful every four or six
hours, in inflammatory fever.

F. 111.—FEVER MIXTURE.

Solution of acetate of ammonia, 2 ozs.
Spirit of nitric æther,
Antimonial wine, of each 2 drms.
Nitrate of potash, $\frac{1}{2}$ drm.
Syrup of saffron, $\frac{1}{2}$ oz.
Spearmint water, to 8 ozs. Mix.

One-sixth part every four or six
hours.

F. 112.—COLCHICUM MIXTURE.

Wine of colchicum, 2 to 3 drms.
Calcined magnesia, $1\frac{1}{2}$ drm.
Syrup of ginger, $\frac{1}{2}$ oz.
Peppermint water, to 8 ozs. Mix.

Half a wineglassful every six or eight
hours.

Useful in gout and rheumatism.

F. 113.—COLCHICUM MIXTURE.

Tincture of colchicum, $1\frac{1}{2}$ to 4 drms.
Carbonate of soda, 2 drms.
Spirit of nitric æther, 2 drms.

Syrup of saffron, $\frac{1}{2}$ oz.
Camphor mixture, to 8 ozs. Mix.

Half a wineglassful every four or six
hours, in acute rheumatism.

F. 114.—COMPOUND CHALK
MIXTURE, WITH OPIUM.

Prepared chalk, 2 drms.
Sugar and powdered gum, of each
3 drms.
Oil of cinnamon, 4 drops.
Tincture of opium, 40 drops.
Tincture of catechu, 1 oz.

Mix gradually and thoroughly in a
mortar, and then add

Water, to 4 ozs.

One tablespoonful to be taken every
time the bowels are relaxed.

Very useful in diarrhœa. The ordi-
nary chalk mixture is inefficient.

F. 115.—MIXTURE FOR DISEASE
OF THE HEART.

Iodide of potash, 25 grs.
Dilute hydrocyanic acid, $\frac{1}{2}$ drm.
Tincture of digitalis, 1 drm.
Peppermint water, 6 ozs. Mix.

Half a wineglassful twice or three
times a day, in cases of diseased heart,
where the action is excited and violent.

F. 116.—COUGH EMULSION.

Almond oil, 1 oz.
Carbonate of potash, 10 grs.
Syrup of poppies, 1 oz.
Powdered gum, $\frac{1}{2}$ oz.
Caraway water, to 4 ozs. Mix.

From one teaspoonful to a tablepoon-
ful for a dose occasionally, for an irritable
cough.

F. 117.—COUGH DROPS.

Solution of acetate of morphine, 2 drms.
Nitrate of potash, 1 drn.
Tincture of tolu, 1 drn.
Honey, 1 oz.

Mixture of acacia, 1 oz. Mix.

One teaspoonful to be taken occasionally.

Very efficacious in relieving cough.

F. 118.—COUGH DROPS.

Extract of hemlock, 1 drn.
Syrup of marsh mallows,
Mixture of acacia, of each 2 ozs. Mix.

One teaspoonful for a dose occasionally.

This may be given to young children in a smaller dose.

F. 119.—CHILDREN'S FEVER MEDICINE.

Tincture of henbane, $1\frac{1}{2}$ drn.
Spirit of nitric æther, 1 drn.
Antimonial or ipecacuanha wine, 1 drn.
Nitrate of potash, 20 grs.
Syrup of tolu, $\frac{1}{2}$ oz.
Caraway water, to 2 ozs. Mix.

One to three teaspoonfuls every four or six hours.

F. 120.—COUGH DROPS.

Syrup of tolu,
Syrup of poppies, of each 1 oz.
Ipecacuanha wine, 2 drms.
Caraway water, to 4 ozs. Mix.

One teaspoonful or more for children,

according to age, in coughs proceeding from colds.

F. 121.—SOOTHING SYRUP.

Tincture of henbane,
Syrup of tolu, of each $\frac{1}{2}$ oz.
Almond mixture, 2 oz. Mix.

Half a teaspoonful to one teaspoonful for a dose for an infant.

F. 122.—CHILD'S FEVER MIXTURE.

Solution of acetate of ammonia, 1 oz.
Spirit of nitric æther,
Antimonial wine, of each $1\frac{1}{2}$ drn.
Syrup of saffron, $\frac{1}{2}$ oz.
Water, to 4 ozs. Mix.

One teaspoonful to a tablespoonful for a dose, every four or six hours.

Useful in feverish complaints affecting the chest.

F. 123.—COLD LOTION.

Solution of acetate of lead, 2 drms.
Spirit of wine, 1 oz.
Rose water, to 8 ozs. Mix.

The lotion to be kept applied with thin linen rags.

F. 124.—COLD EVAPORATING LOTION.

Solution of acetate of ammonia, 2 ozs.
Spirit of wine, 1 oz.
Camphor mixture, to 8 ozs. Mix.

Useful in any inflammation of the surface.

STIMULANTS are those medicines which give a prompt increase of energy to vital action. The influence may be general or merely local, and is variously available so as to produce very different effects. If applied very powerfully, it will cause speedy exhaustion of vital power, and the depression will be great in proportion to the intensity of the original excitement. The principle of stimulation is most valuable in medicine, and when judiciously applied will readily relieve many morbid states. In addition to the obtainment of its direct action, it is often applicable in an indirect manner, so as to cause an artificial excitement which will supplant the morbid one, tending to withdraw it from the locality where it already exists. On this is founded treatment by counter-irritation, which is not confined to the action of blisters and other stimulation of the surface, but is also carried out by purgation and other forms of medicinal influence.

F. 125.—MIXTURE OF BRANDY.

Best brandy,
Cinnamon water, of each 4 ozs.
Yolk of two eggs.
Sugar, $\frac{1}{2}$ oz.
Oil of cinnamon, 2 drops. Mix.

An excellent stimulant in very low states.

F. 126.—STIMULANT MIXTURE.

Chloric æther, 1 drn.

Aromatic spirit of ammonia,
Compound tincture of lavender, of each 2 drms.

Syrup, 1 oz.
Peppermint water, to 6 ozs. Mix.

Half a wineglassful every four or six hours.

F. 127.—STIMULANT ANTISPASMODIC MIXTURE.

Ammoniated tincture of valerian,

Syrup of ginger, of each 1 oz.
Camphor mixture, 6 ozs. Mix.
Half a wineglassful for a dose.
In cases of low nervous debility.

F. 128.—STOMACHIC STIMULANT.

Carbonate of ammonia, 20 grs.
Compound infusion of gentian, 5 ozs.
Compound tincture of cardamoms,
Syrup of ginger, of each $\frac{1}{2}$ oz. Mix.

One quarter part twice a day.
In debility of stomach.

F. 129.—ALTERATIVE STIMULANT.

Powder of gum guaiacum, $1\frac{1}{2}$ drms.
Powder of aloes, 6 grs.
Powder of ginger, 20 grs. Mix.

Divided into six powders. One twice a day.
In chronic rheumatism.

F. 130.—COPAIBA MIXTURE.

Balsam of copaiba, $\frac{1}{2}$ oz.
Solution of potash, 2 drms.
Powder of gum, 1 oz.
Sugar, $\frac{1}{2}$ oz.
Cinnamon water, to 8 oz. Mix.

Half a wineglassful two or three times a day.
To stimulate the urethra and urinary organs.

F. 131.—CUBEBA AND COPAIBA MIXTURE.

Balsam of copaiba, $\frac{1}{2}$ oz.
Oil of cubebs, 30 drops.
Sugar and powder of gum, of each $\frac{1}{2}$ oz.
Carbonate of soda, 2 drms.
Peppermint water, to 8 ozs. Mix.

One to two tablespoonfuls three times a day.

F. 132.—COMPOUND COPAIBA MIXTURE.

Copaiba mixture, $7\frac{1}{2}$ ozs.
Spirit of nitric æther,
Tincture of henbane, of each 2 drms.
Mix.

More soothing and diuretic than simple copaiba mixture.

F. 133.—GARGLE FOR ULCERATED THROAT.

Hydrochloric or muriatic acid, $\frac{1}{2}$ dr. to 1 dr.
Honey, 1 oz.
Compound infusion of rose, to 6 oz. Mix.
To be used frequently.

F. 134.—MEDICATED HONEY.

Powdered borax, 1 dr.
Tincture of myrrh, 2 drms.
Honey, 1 oz.
Otto of rose, 1 drop. Mix.

To be smeared inside the mouth frequently.

Useful in ulceration of the mouth, especially with children.

F. 135.—STIMULATING LINIMENT.

Solution of ammonia, $\frac{1}{2}$ oz.
Spirit of turpentine, 1 oz.
Soap liniment, $1\frac{1}{2}$ oz. Mix.

To be rubbed into the part affected two or three times a day.

A good application for rheumatic pains, strains, sore throat, &c.

F. 136.—AMMONIACAL LINIMENT.

Camphorated oil, $1\frac{1}{2}$ oz.
Solution of ammonia, $\frac{1}{2}$ oz. Mix.

A mild stimulant application for external use.

F. 137.—CAUSTIC SOLUTION.

Nitrate of silver, 10, 20, or 30 grs.
Nitric acid, 5 drops.
Distilled water, 1 oz. Mix.

When this is used for application to the eye, the acid must be omitted.

F. 138.—STIMULANT LOTION.

Hydrochlorate of ammonia, 3 drms.
Distilled vinegar, 10 ozs.
Spirit of wine, 2 ozs. Mix.

To be kept applied.

For indolent inflammatory swellings.

F. 139.—CROTON OIL LINIMENT.

Croton oil, 1 dr.
Aromatic spirit of ammonia, 3 drms.
Soap liniment, $1\frac{1}{2}$ oz. Mix.

The liniment to be applied night and morning.

A useful and powerful counter-irritant.

F. 140.—COUNTER-IRRITANT OINTMENT.

Tartarized antimony, 1 dr.
Powdered white sugar, 1 dr.
Lard, 1 oz. Mix.

The ointment to be applied night and morning.

Serviceable in internal chronic disease.

F. 141.—PILE OINTMENT.

Camphor (finely powdered), $\frac{1}{2}$ drm.
 Acetate of lead, 1 drm.
 Spermaceti ointment, 1 oz. Mix.

The ointment to be applied two or three times a day.

Will greatly relieve irritation.

F. 142.—ABSORBENT OINTMENT.

Iodide of potassium, 1 drm.

To be rubbed very fine and dissolved with a few drops of water.

Lard, 1 oz.

Camphor (finely powdered), $\frac{1}{2}$ drm.
 Mix.

To be rubbed in night and morning.

To be used in cases of tumour and chronic enlargement.

STOMACHICS and CARMINATIVES are those medicines which support and renovate the tone of the stomach and other digestive organs, and thereby promote the health and strength of the entire economy.

F. 143.—STOMACHIC AND DIGESTIVE PILLS.

Extract of aloes,
 Powder of gum mastich, of each 25 grs.
 Extract of gentian, 1 drm.
 Oil of carraway, 6 drops. Mix.

Divide into twenty-four pills. One to be taken before each meal.

In cases of weak digestion.

F. 144.—STOMACHIC PILLS.

Powdered carbonate of ammonia.
 Extract of gentian, of each $\frac{1}{2}$ drm. Mix.

Divide into twelve pills. One two or three times a day.

In debility of the stomach with acidity.

F. 145.—DIGESTIVE PILLS.

Powder of rhubarb, 20 grs.
 Powder of ipecacuanha, 8 grs.
 Castile soap.
 Extract of henbane, of each 15 grs.
 Mix.

Divide into twelve pills. One twice or three times a day.

Where the stomach is weak and irritable.

F. 146.—STOMACHIC MIXTURE.

Infusion of calumba,
 Infusion of rhubarb, of each 3 $\frac{1}{2}$ ozs.
 Syrup of orange peel, 1 oz.
 Solution of potash, 2 drms. Mix.

Half a wineglassful two or three times a day.

For weakness of stomach after acute disease.

F. 147.—STIMULANT STOMACHIC.

Powder of rhubarb, 20 grs.
 Calcined magnesia, 40 grs.
 Powder of ginger, 25 grs.
 Oil of peppermint, 6 drops.

Dissolved in 1 drm. of spirit of wine.
 Water, 6 ozs.

One tablespoonful three times a day.

Very useful in many cases of dyspepsia.

F. 148.—DIGESTIVE MIXTURE.

Powder of rhubarb, 20 grs.
 Calcined magnesia, 1 drm.
 Powder of ginger, 20 grs.
 Wine of colchicum, 1 drm.
 Aromatic spirit of ammonia, 1 $\frac{1}{2}$ drm.
 Compound infusion of orange peel, 6 ozs.
 Mix.

Half a wineglassful two or three times a day.

In low gouty states.

F. 149.—STOMACHIC MIXTURE.

Infusion of quassia, 5 ozs.
 Infusion of rhubarb, 3 ozs.
 Tincture of ginger, 2 drms.
 Bicarbonate of potash, 1 $\frac{1}{2}$ drms. Mix.

One-sixth part twice a day.

To promote appetite and digestion.

F. 150.—STOMACHIC MIXTURE.

Compound infusion of gentian or cascarrilla,
 Peppermint water, of each 4 ozs.
 Carbonate of ammonia, 40 grs. Mix.

One-sixth part twice a day.

Very beneficial in many cases of weak and faulty digestion.

F. 151.—CARMINATIVE
DRAUGHT.

Aromatic confection, $\frac{1}{2}$ drm.
 Aromatic spirit of ammonia, $\frac{1}{2}$ drm.
 Powder of rhubarb, 10 grs.
 Syrup of ginger, 1 drm.
 Peppermint water, 1 oz. Mix.

In cases of spasm of the stomach.

F. 152.—CORDIAL ASTRINGENT
DRAUGHT.

Aromatic spirit of ammonia, $\frac{1}{2}$ drm.
 Aromatic confection, $\frac{1}{2}$ drm.
 Tincture of opium, 5 drops.
 Tincture of catechu, 1 drm.
 Cinnamon water, 1 oz. Mix.

In spasmodic diarrhoea.

F. 153.—STOMACHIC MIXTURE.

Infusion of calumba, 5 ozs.
Syrup of orange peel, 6 drms.
Chloric æther, 2 drms.
Carbonate of ammonia, $\frac{1}{2}$ drm. Mix.

Half a wineglassful two or three times a day.

Where the stomach is weak and irritable.

F. 154.—CARMINATIVE MIXTURE.

(FOR INFANTS.)

Calcined magnesia, $\frac{1}{2}$ drm.
Powder of gum,
White sugar, each 1 drm.
Oil of aniseed, 3 drops.
Chloric æther, 25 drops.
Water, to $\frac{1}{2}$ oz. Mix.

One teaspoonful to be given when required.

In cases of flatulency.

TONICS are those medicines which give energy and power to the entire frame, improving its organization and action without occasioning any marked excitement, but tending to abate any irritative state that may exist. They act directly on the blood, which they render more perfect and rich in its composition, and thereby impart tone, vigour, and activity where they are deficient.

F. 155.—TONIC AND STOMACHIC PILLS.

Sulphate of quinine, 20 grs.
Powder of rhubarb, $\frac{1}{2}$ drm.
Extract of camomile, $\frac{1}{2}$ drm.
Oil of chamomile, 4 drops. Mix.

Divide into twenty pills. One three times a day.

In cases of general debility.

F. 156.—TONIC AND APERIENT PILLS.

Sulphate of quinine, 20 grs.
Compound rhubarb pills, 1 drm. Mix.

Divide into twenty pills. One twice a day.

Where there is debility and inaction of the stomach.

F. 157.—TONIC PILLS.

Sulphate of quinine,
Camphor (finely powdered), of each 12 grs.
Extract of hop, $\frac{1}{2}$ drm. Mix.

Divide into twelve pills. One twice or three times a day.

In low states of debility.

F. 158.—TONIC AND DIGESTIVE PILLS.

Sulphate of quinine, 12 grs.
Blue pill,
Extract of rhubarb, of each 20 grs. Mix.

One to be taken twice a day.

This combination is useful when the liver tends to be inactive.

F. 159.—BARK MIXTURE.

Decoction of bark, 6 oz.
Syrup of orange peel,

Compound tincture of bark, of each 1 oz.
Carbonate of ammonia, $\frac{1}{2}$ drm. Mix.

One-sixth part twice or three times a day or oftener.

In states of great nervous debility.

F. 160.—TONIC AND STOMACHIC MIXTURE.

Decoction of bark, 7 ozs.
Compound tincture of rhubarb, 1 oz.
Bicarbonate of potash, $1\frac{1}{2}$ drm. Mix.

One sixth part twice or three times a day.

This form may be useful after acute disease.

F. 161.—BARK MIXTURE.

Decoction of bark, 6 oz.
Compound tincture of bark,
Syrup of orange-peel, of each 1 oz.
Hydrochloric or muriatic acid, $\frac{1}{2}$ drm. Mix.

One-sixth part every four or six hours, in cases of low fever.

F. 162.—QUININE MIXTURE.

Sulphate of quinine, 6 to 12 grs.
Dilute sulphuric acid, 20 drops.
Syrup, 1 oz.
Infusion of roses, to 6 oz. Mix.

Half a wineglassful for a dose, as often as requisite.

An efficient form of tonic medicine.

F. 163.—AROMATIC QUININE MIXTURE.

Sulphate of quinine, 6 or 12 grs.
Dilute sulphuric acid, 20 drops.
Syrup of ginger, 1 oz.

Compound infusion of orange peel, 7 ozs.
Mix.

One-sixth part twice or three times a day.

A good ordinary tonic.

F. 164.—CHALYBEATE TONIC.

Citrate of iron, $1\frac{1}{2}$ drms.

Syrup of orange-peel, 1 oz.

Infusion of calumba, 7 ozs. Mix.

Half a wineglassful two or three times a day.

An excellent tonic in irritable constitutions.

F. 165.—TONIC MIXTURE.

Citrate of iron and quinine, $\frac{1}{2}$ drms.

Syrup, 1 oz.

Cinnamon water, 7 ozs. Mix.

One-sixth part twice or three times a day.

Very serviceable when the system is in a weak and relaxed condition.

F. 166.—CHALYBEATE SALINE MIXTURE.

Sulphate of iron, 16 grs.

Sulphate of magnesia, $\frac{1}{2}$ oz.

Dilute sulphuric acid, 2 drms.

Infusion of quassia, 8 ozs. Mix.

Half a wineglassful three times a day.

Very efficient in improving the tone of the system.

DOMESTIC REMEDIES

AND

COOKERY FOR THE SICK.

COMMON BLACK DRAUGHT, OR APERIENT MIXTURE.

On one ounce of senna leaves, one half ounce of liquorice cut small, and one quarter of an ounce of ginger, bruised or sliced, pour a pint* of boiling water, and let stand for four hours, stirring occasionally; then strain the liquor, dissolve two ounces of Epsom salts in it, and add one tablespoonful of sal-volatile. This will keep any length of time in a corked bottle, and will be found an excellent form of opening medicine. A wineglassful will be the dose for an adult.

PURGATIVE BISCUITS.

Take two ounces of flour, one ounce of powdered sugar, and one or two eggs; to this add one drachm of jalap, the same of powdered scammony, and half a drachm of powdered ginger, well mixed together. Make twelve biscuits.

ANOTHER FORM.

Take two ounces of flour, and one ounce of powdered sugar; to this add one drachm and a half of jalap, half a drachm of ginger, and twelve grains of calomel, and rub the ingredients well together with a sufficiency of treacle. Make twelve biscuits. One of either of these forms will be sufficient for a child five years old.

LAXATIVE DECOCTION.

Take half an ounce of senna leaves, two ounces of tamarinds, and the same of prunes sliced, and a pint and a quarter of water; boil gently together for ten minutes, stirring constantly, and then strain. An excellent medicine for daily use for young children, when they seem heated and feverish.

COMPOUND DECOCTION OF DANDELION.

Take four ounces of fresh dandelion root, sliced fine, half an ounce of chamomile flowers, and two and a half pints of water; boil down to two pints, and then strain. A small cupful of this decoction, taken twice a day, before breakfast and in the afternoon, is often of much service, when there is deficiency of appetite and imperfect digestion, owing to want of due biliary secretion.

* In these recipes we shall speak of a pint according to the common measurement, viz.; as containing sixteen fluid ounces, whereas the medicinal pint contains twenty fluid ounces, and is therefore one-fifth larger in its capacity,

DECOCTION OF BARLEY.

Take two ounces of pearl barley, and four and a half pints of water. Wash the barley, and boil it for a few minutes in half a pint of the water, which may then be poured off, and thrown away; add the other four pints of water to the barley, and boil it down slowly to about two pints, and strain. This should be flavoured with lemon-peel, and slightly sweetened, reducing it if too thick. A good demulcent.

COMPOUND DECOCTION OF BARLEY.

Take two pints of the decoction of barley, two and a half ounces of figs sliced, the same of stoned raisins, three-quarters of an ounce of fresh liquorice-root sliced, and one pint of water; boil together gently for a quarter of an hour, keeping it well stirred, and then strain. Useful in cases of cough, cold, and sore-throat.

ACIDULATED DECOCTION OF BARLEY.

Take two pints of simple decoction of barley, two ounces of sugar-candy, the juice of a lemon, and one-third of the peel shredded fine; boil them gently together for ten minutes, adding half a pint of water, and then strain. An agreeable and useful drink in cases of cold and sore-throat.

LINSEED TEA.

Take one ounce of linseed and the same of liquorice-root cut thin; on these materials pour two pints of boiling water, and let stand by the fire for four hours, and then strain. An excellent soothing demulcent, especially when there is any irritation of the urinary organs.

TOAST AND WATER.

Toast a piece of bread of moderate thickness thoroughly, so that it may be well hardened, and of dark brown colour; this is to be placed in a jug, and a sufficient quantity of boiling water poured upon it. It is to be covered up, and should be strained off as soon as cold. This is an exceedingly wholesome beverage.

IMPERIAL.

Pour two pints of boiling water on half-an-ounce of cream of tartar, a few thin slices of lemon, a little orange-peel, and half-an-ounce of sugar-candy; strain off the clear liquid when cold. An agreeable drink in the heat of summer, and when there is any feverish state of system.

APPLE WATER.

A large apple, peeled and cut into thin slices, to be placed in a jug with a few thin chips of lemon rind and a little white sugar, and two pints of boiling water are to be poured thereon; this is to be covered over, and in the course of two hours may be strained off for use. An agreeable cooling beverage.

LEMONADE.

This may be made by pouring two pints of boiling water on two ounces of white sugar, the juice of two lemons, with the rind of one cut thin, and a few chips of ginger; this should stand by the fire for half-an-hour, and then be strained off.

ORANGEADE.

Pour one pint of boiling water on the juice of a large orange, and one tea-spoonful of lemon juice, with a few chips of orange and lemon peel, and sweeten slightly; after standing two hours, covered up, strain it off.

WHITE WINE WHEY.

To half a pint of good milk, at boiling point, add from half a wineglassful to a glassful of sherry; let it boil up again, and if the curd do not seem to separate, add a squeeze of lemon while boiling. Put the saucepan on one side until the curd forms, then strain and add a sufficiency of sugar. This stimulating diluent should be drank as hot as possible, when taken at bedtime, to relieve a cold or promote perspiration.

LEMON WHEY.

This should be prepared like the white wine whey, half-a-pint of milk being turned with a tablespoonful of lemon-juice, and then strained and sweetened.

POSSETS.

These are mild warm stimulants, which may be made by gently boiling a large tablespoonful of treacle or a wineglassful of beer with half-a-pint of milk for five minutes, and then straining.

COMMON GRUEL.

This is always best made for invalids with oatmeal, groats, or pearl-barley: either of these ingredients must be used according to the thickness desired; about a dessertspoonful of the former or a tablespoonful of the latter is the common proportion to a pint of water, or milk and water; it should be well boiled, and then strained; sugar, cinnamon, salt, or pepper, may be added at the time.

RICE GRUEL.

An ounce of rice is to be boiled in a little water for a few minutes, so as to cleanse it; then put it in four pints of water, and boil gently until it is reduced to two pints: this should be sufficiently sweetened with white sugar, and well flavoured with cinnamon and lemon peel; it is to be strained while boiling. With the addition of one or two glasses of good port wine, this, taken frequently in small quantities, will afford light and soothing nutriment, where there is a relaxed and irritable state of bowels, owing to prolonged diarrhoea or dysentery, especially with young children.

ARROWROOT.

This may be prepared with milk or with water. About a dessertspoonful of arrowroot is to be well mixed with a little cold water; half-a-pint of boiling milk or water is then to be gradually poured upon it, stirring well at the same time; sugar, wine, and spice may then be added as desirable. It is preferable that arrowroot should thicken without boiling, and if good it will readily do so.

SAGO OR TAPIOCA.

Sago should be well washed before using, to remove the earthy taste. A tablespoonful of this or of tapioca should be boiled slowly for about a quarter of an hour with rather more than half-a-pint of water, so as to soften and partly dissolve it, sweetening and flavouring with cinnamon or lemon peel; half-a-pint of milk is then to be added, gradually keeping it stirred until it boils up again, when it will be ready for use.

CARRAGEEN, OR IRISH MOSS.

A wholesome jelly may be prepared with this moss, which will be both nutritious and soothing. From half an ounce to an ounce of the moss, well picked

and previously soaked in cold water for a quarter of an hour, is to be boiled in a pint and a half of water until dissolved, lemon peel, cinnamon, or bitter almonds being added by way of flavouring, and it should be sweetened with sugar-candy; half the quantity of milk is then to be added, suffering it once more to boil up gently before straining. When milk disagrees, it may be prepared with water only, making it of such thickness as desired, and flavouring in a similar manner, or with lemon juice, Seville orange juice, or with wine. The simple decoction made as above, with the addition of milk and sugar-candy, will form a most wholesome nutriment for infants, but boiling the milk for any length of time in this or any other preparation for invalids should be carefully avoided, as it renders it indigestible.

ICELAND MOSS.

This is very similar to the Carrageen, but contains a bitter principle, which may be removed by soaking in cold water for some length of time; it may then be prepared in the same way as the Carrageen. When used medicinally, however, it should merely be washed, and then boiled in the proportion of an ounce and a half to a pint and a half of water; this is to be boiled down to a pint; it is to be sweetened with sugar-candy, and half a pint of milk is to be gently boiled up with it. This quantity may be taken at intervals in the course of the day, either warm or cold, and will be found serviceable in consumption and other cases of constitutional debility.

SIMPLE JELLY.

Take of rice, sago, pearl barley, and hartshorn shavings each one ounce, and three pints of water; boil gently until it is reduced to one pint, and when cold it will form a jelly. This may be taken in tea, wine and water, &c., when desirable.

GROUND RICE MILK.

Mix one tablespoonful of ground rice gradually with half a pint of cold water; boil for ten minutes, sweetening it, and flavouring it with lemon peel and cinnamon, then strain, add a pint of milk, and boil it gently for five minutes, keeping it well stirred.

PANADA.

A light food for infants and invalids, best made by gently boiling biscuit or thin slices of bread well dried in an oven in water or milk and water, for the space of twenty minutes, beating it well up from time to time; it should be sufficiently sweetened.

ARTIFICIAL ASSES' MILK.

Boil pearl barley, sago, rice, and eringo root, of each an ounce, in three pints of water, until reduced to one-half, and then strain; of this a tablespoonful or more may be added to a quarter-pint of boiling milk, so as to render it of the consistence of cream.

PETIT LAIT.

Mix the whites of two eggs thoroughly with three pints of milk, and then boil for a few minutes, until the curd separates, then strain off through muslin or a fine hair sieve. This forms a wholesome beverage for the sick, when some slight nourishment is desirable.

RENNET WHEY.

This should be prepared by gently boiling new milk with a small portion of calves' rennet for a few minutes, so as to cause the thorough separation of the curd, when it may be strained off. This constitutes an exceedingly wholesome and agreeable beverage for the sick.

JELLY FROM GELATINE.

Pour half a pint of cold water on from an ounce to an ounce and a half of gelatine, so as to soften it thoroughly; then add a pint of boiling water, and stir it till the gelatine is dissolved; also take the rind of half a lemon, cut very thin, and the juice of a whole one, one quarter pound of loaf sugar, and the whites and broken-up shells of two eggs, thoroughly beaten up, and mix well together; this is to be gently boiled up, and when removed from the fire, a wineglassful or two of port or sherry can be added; strain it through a flannel bag, taking care that it runs clear, and then let it get cold. If desirable, the wine can be omitted.

GELATINE IN MILK.

From half an ounce to one ounce of gelatine should be soaked in a little cold water until thoroughly softened; on this may be poured one pint of boiling milk, sweetened and flavoured with cinnamon or lemon peel, and this is to be well stirred until the gelatine is completely dissolved; it should then be gently boiled up again and strained; if desirable, brandy can be added when taken off the fire.

CAUDLE.

Make good smooth gruel, not too thick, stirring at times until cold; when used, it is to be warmed with a sufficiency of wine and sugar, a little nutmeg and lemon peel being added. It may also be made by adding the yolk of an egg beat up with a little cold water, with sugar, nutmeg, and a glass of sherry, to a pint of boiling gruel, mixing gradually.

NUTRITIVE JELLY.

This may be prepared by baking two calves' feet in two pints of water and the same of new milk, for the space of three hours, in a close covered jar; when cold, the fat should be removed: this should be flavoured with lemon, mace, or cinnamon, and sweetened according to taste.

STIMULATING PANADA.

Set a wineglassful of sherry and the same of water to boil in a small saucepan, with a sufficiency of sugar and a little grated nutmeg and lemon peel; then add a due proportion of bread crumb, and let it boil gently for a few minutes, keeping it well stirred.

CHICKEN PANADA.

Boil a chicken in a quart of water until pretty well done; then take it out, and when cold, cut off all the white meat, and pound it to a paste in a marble mortar, with a little of the liquor, which should have been set on one side, and freed from fat as soon as cold: this paste is to be seasoned with a little salt, and grated nutmeg and lemon peel, and boiled up with a sufficiency of the liquor to bring it to the consistency of gruel.

BEEF TEA.

Chop a quarter of a pound of lean beef fine, put it in a covered earthen jar or pipkin, and pour a pint of boiling water upon it; let it stand for twenty minutes at the edge of the fire, and then strain it off: when cold, skim off any fat there may be on the surface, and flavour sufficiently with salt. This may be drank either warm or cold. In preparing beef tea, it is of consequence never to raise the temperature too high, if we wish it to be light and digestible.

BROTH.

This consists of a decoction of any kind of meat—beef, mutton, veal, or fowl—and for invalid diet the meat should be as lean as possible: the material should be placed in a saucepan, with a sufficiency of cold water, which should be gradually raised to boiling point; the saucepan is then to be drawn to the side of the fire, so as to keep it somewhat under the boiling point, and it is to be suffered to remain there a considerable time, until the meat seems to have yielded up its goodness: the liquid should be strained off and suffered to get cold, so as to have the fat skimmed off. When the broth is warmed up for use, it can be flavoured with salt, pepper, mace, or allspice, as wished, and even with herbs. Barley and rice are useful additions to broth for thickening it and increasing its nutritive nature, but in such case they should be boiled separately, and the liquor or the grain itself should be added when the broth is warmed up; otherwise they may serve to prevent the fatty matter from separating, which is objectionable to a weak stomach. The addition of crumb of bread or a crust, when the broth is boiled up finally, may be preferred.

GRAVY.

That which runs from roasted beef or mutton, suffered to get cold, so as to remove the fat, then warmed in a saucepan, and poured over a few well-toasted crumbs of bread, or a little well-boiled rice, will afford very strengthening nutriment for a weak stomach.

MULLED WINE.

Boil a sufficiency of water with as much sugar, spice, and lemon peel as will serve to give it due flavour and sweetness; then add an equal proportion of wine, and boil up together; to be served with dry toast.

EGG WINE.

Boil up in a small saucepan a glass of wine and half a glass of water, with a sufficiency of nutmeg and sugar; when it has boiled for a minute, remove it from the fire, and slowly and gradually add the yolk of an egg, well beat up with half a wineglassful of cold water, stirring it meanwhile, to prevent curdling. This is very light and nutritious.

STOMACHIC TINCTURE.

Take of stoned raisins one pound; cinnamon, cloves, nutmeg, cardamom seeds, canella bark, bruised, each one ounce; saffron, half an ounce; the rind of two Seville oranges; and sugar-candy, one pound: on these ingredients pour one gallon of the best brandy, and let it infuse for fourteen days, shaking well daily; then filter, and it will be fit for use.

DECOCTION FOR FOMENTATION.

Take four ounces of poppy-heads well bruised, two ounces of chamomile flowers, and four pints of water; let it boil well for ten minutes, keeping it well stirred, and then strain.

FREEZING MIXTURES.

Glauber's salt.....	6 parts	}	Fahrenheit's thermometer sinks from 50° to 10°
Sal ammoniac.....	4 parts		
Nitre	2 parts		
Dilute nitric acid .	4 parts		
Sal ammoniac.....	5 parts	}	" " " 50° to 4°
Nitre	5 parts		
Glauber's salt.....	8 parts		
Water	16 parts		
Sal ammoniac.....	5 parts	}	" " " 50° to 10°
Nitre	5 parts		
Water	16 parts		

B A T H S.

THESE consist in the general or local application of liquids or vapour to the surface of the body. Water is the common material, and is sometimes used in the form of steam. Hot air may also be employed.

Baths may be variously medicated, but it is to those of simple nature that we shall here refer.

The peculiar influence of baths is in a great measure dependent on the temperature of which they are the medium, and somewhat also on the accompanying moisture. Cold naturally produces a sedative and depressing influence, but if not applied in too intense a degree, or for too long a space of time, the reaction of the system will institute a state of excitement which will rouse and exalt the vital energy. Such is the desired effect of plunging baths, shower baths, and douche or dash baths, of which the temperature may extend from near freezing point up to 75 degrees. These may be used medicinally, and are often exceedingly valuable when there is a want of constitutional tone or a necessity for local stimulation, as we have already repeatedly noticed in the foregoing pages. Even for the maintenance of health, and the prevention of disease, the influence of cold bathing is often highly serviceable, invigorating the system and promoting the action of the skin. But care must be taken in reference to cold bathing of any kind, that it do not occasion undue depression of the system, causing the power of the circulation to become lowered, or any internal congestion to take place. Thus, therefore, where there is subsequently a sensation of chilliness, the fingers and lips are blue, the countenance and general surface are pallid, and there is a feeling of languor or drowsiness, we may feel assured that the cold bathing is injurious, and that the constitution cannot bear it. To ensure the beneficial influence of cold bathing, however, certain precautions ought to be observed in any case. With the weak and the aged a low temperature is not advisable; any tendency to head affection makes cold bathing decidedly objectionable, except occasionally in the shape of a shower bath, nor should it be resorted to where there is any serious derangement of the stomach. It is not desirable to use cold bathing when a person is in a state of exhaustion, nor ought he to remain in the water so long as to become fatigued or chilled; and while it is very objectionable for any one to bathe when overheated, yet it is no less dangerous to do so when a person is cold and shivering, as due reaction may then not take place. On coming out of a cold bath the skin should be well rubbed with a rough towel, so as to produce a glow over the surface. For a person of strong and healthy constitution a cold bath may be available before breakfast, but it will often be found more suitable three or four hours afterwards, and this is especially the case in reference to sea bathing. Shower baths and the cold dash, however, are always preferable at the hour of rising. Cold bathing must never be resorted to soon after a full meal.

Sea bathing has certainly a more stimulating and tonic effect than fresh water

bathing; the temperature of the salt water is on the average warmer, and at the same time more equable: it excites the skin so that reaction comes on more readily; thus many persons can bathe in it who are unable to do so in fresh water. The salt water will often excite considerable irritation of the skin, which may however be readily relieved by subsequently sponging over the surface with warm fresh water.

When cold baths do not agree, tepid ones may be available, carrying the temperature up as high as 90 deg., and though these will not exert the same tonic influence as cold baths, yet their constant use will conduce both to health and comfort, stimulating and purifying the skin, and allaying any irritable state thereof, while even for the purpose of cleanliness it is more or less essentially requisite, and at any rate the daily sponging over of the body with cold or tepid water should on no account be omitted.

The douche or dash consists in a stream of cold or tepid water being forcibly directed against any part of the body. As we have already mentioned, it exerts a stimulating influence, more or less powerful, according to the low temperature of the water, the bulk of the stream, the force with which it strikes, and the length of time during which it is continued. Half a gallon of water at a temperature of 60 deg. poured out of a garden watering-pot without the rose, from the height of four or five feet, will constitute a moderate cold dash.

The temperature of warm and hot baths ranges from 90 to 110 deg.; from 98 to 102 deg. is the most usual standard. Warm baths stimulate the skin and increase its vascularity, and if used at a high temperature they cause general excitement in the first instance: after a time they tend to cause faintness and exhaustion. They exert an anti-spasmodic influence, so as to allay pain and spasm, and abate general irritation. Warm baths may thus be of great service as remedial agents, by drawing the blood to the surface, causing vascular and muscular relaxation, and promoting perspiration, especially in convulsive and inflammatory diseases. The average length of time for remaining in a warm bath is from ten to twenty minutes, but this, as well as the temperature, must depend on whether a stimulant or sedative action is desirable, and on the special circumstances of the case. For a child the temperature of a warm bath should never exceed 98 deg. In cases of fatigue and over-exertion nothing is more agreeable and refreshing than a warm bath at the heat of from 96 to 98 deg.; it soothes the irritable and heated skin, and relieves the muscular action. The same rules apply to local warm baths as to general ones. Hip baths are chiefly available for females in the peculiar complaints to which they are liable, and have much power over spasmodic and inflammatory states of the uterine system; they may, however, also be of much utility in the male subject in some affections of the kidneys, bladder, or lower bowel. Foot or leg baths have a derivative influence, drawing the blood down to the lower extremities, and in a minor degree producing the same effect as a general warm bath.

Steam or hot air baths cause the skin to act powerfully: many simple forms of apparatus are constructed for their administration, and are obtainable at any of the large ironmongers'. Their action is decidedly more stimulating than that of water baths: they induce perspiration much more promptly and profusely, and in that respect they are preferable, but they do not possess the same soothing influence in the first instance. They can be borne at a much higher temperature than water baths. If the object in taking a warm bath of any kind is especially to cause perspiration, some subsequent precaution should always be observed: after drying the surface of the body as quickly as possible, the patient should be thoroughly wrapped up in a large blanket, without any clothing; he should then be immediately placed in bed and well covered up with clothes, remaining

undisturbed until the sweating shall have been sufficiently effected, when he may assume his usual under garments.

The *wet sheet* of the hydropathists is a combination of cold and warm bathing, and has a very powerful sudorific effect. The application of the cold in the first instance has a stimulating influence; it excites the development of animal heat, which is retained and augmented by the external blanket packing; thus the moisture soon becomes tepid like a large warm poultice, relaxing the skin and occasioning the most profuse perspiration. Sponging with cold or tepid water after this form of bath is generally desirable. The wet sheet is of great utility, and might be used with advantage much more commonly than is at present the case.

CONTAGION AND INFECTION,

AND

THEIR PREVENTION.

MANY diseases are contagious or infectious in their nature; that is, they can be communicated from one person to another: the prevention of this will, therefore, often become a matter of medical precaution. It is also sometimes the case that diseases which are not essentially infectious in their nature, may exert an injurious effect over those exposed to their influence. To counteract these mischiefs various preparations, which are termed *disinfectants*, are made use of, which having the power of destroying colour and smell, also have the effect of neutralizing the external development of the morbid principle, and to counteract its active power of propagation. The efficacy of these preparations generally depends on the presence of chlorine. The *chlorides of soda* and the *chloride of lime* are both valuable disinfectants, and may be prepared as solutions by adding one pound of either substance to three or four gallons of cold water, and this should be kept well stirred for a while; it should then be allowed to settle, and the clear liquid solution should then be kept in bottles, which must be well corked. The strong solutions can also be obtained from any druggist. But the preparations have the disadvantage of giving off a vapour disagreeable to the smell, and which at the same time may be injurious from being irritant in its nature, which renders it apt to affect the air passages. This objection does not, however, apply to the chloride of zinc as prepared in *Burnett's disinfecting solution*, which is equally efficacious in effecting the desired object, at the same time that it is devoid of odour, so as to be unobjectionable in the sick-room. The solution of these chlorides, properly diluted, may be sprinkled about a chamber or wiped over the floor, but the best method of using them is by soaking large cloths with them, and suspending these from lines or the backs of chairs, renewing them from time to time. One or other of these preparations should always be used in the night-chair or bed-pan, and, when the existing disease is in any way infectious, all foul linen, &c., should be immediately plunged in a weak solution previous to being washed. In using these *chlorides* in a room, it must always be borne in mind that, if used too strong, they possess a colour-destroying power, and even a caustic action. Collins' disinfecting powder is also a chlorino preparation very useful in sick chambers.

There is, however, no greater preventive of infection than a scrupulous attention to cleanliness in every respect, both as to the person of the patient, and everything in use in the sick room. Due regard must be had to ventilation, and with this object the presence of a fire in the chamber is usually highly advantageous, promoting the renewal of the air; but this must be managed so as not to overheat the room, or occasion any injurious draught of cold air. All unnecessary clothes or drapery should be removed, as they only serve to

hold and retain any poisonous effluviun, especially if they be of woollen texture.

Much care and precaution is often required in the purification of a room, or even an entire house, where infectious disease has existed. The use of the chlorides pretty freely, as already directed, will be desirable in the first instance. When something more powerful and diffusible seems desirable, the free liberation of chlorine or of nitrous acid vapour will be advisable. The first may be obtained by mixing equal weights of strong vitriol or sulphuric acid and common salt in a shallow vessel: the second will be afforded by pouring one ounce of strong sulphuric acid on two ounces of nitrate of potash or saltpetre in a large teacup, which must be placed in a basin containing hot water. If an entire house have to be fumigated, several of the quantities should be used in different parts of it. The windows and doors should be kept closed at the time of fumigation for half an hour or more. Due caution must be observed to avoid inhaling the irritating fumes of either of the above preparations, and the person who mixes them must withdraw with the least possible delay. Hot lime-wash also affords an excellent means of purification and disinfection, which is always readily available, especially in the cottages of the poor.

The infectious nature of diseases varies greatly in its intensity and the permanency of its duration, as for example in typhus fever, small pox, and scarlet fever; and also epidemic agency often especially promotes their existence, as is the case in cholera and influenza. Much of the power of infection, however, depends on the aptitude of the constitution of a person for its influence. We well know that in most instances, where an infectious disease has once existed, it cannot recur; moreover, some constitutions are more liable to infection than others. But, again, there is often an artificial liability constituted on the one hand by the neglect of due sanitary means in respect to cleanliness, ventilation, and proper drainage, and on the other hand by the want of personal precaution. To the first of these disposing agencies we have repeatedly directed attention in the course of this work, and too much importance cannot be attached to the influence thereby exerted, nor too much exertion directed to their counteraction. The second special liability should, also, always be borne in mind, and to obviate it attention must be paid to the maintenance of the general health: exhaustion, whether mental or bodily, should be carefully avoided; the diet should be good and duly regulated; the bowels should be kept in good order; free ablution should be made use of; opportunities of exercise in the open air should be taken advantage of; and the inhalation of the malaria of the sick-room should not be continued too long together. There can be no doubt that the exhalation and effluviun from a sick person may be prejudicial to any one who is exposed to their influence for any length of time, and where there is already a sufficient predisposition, it seems more than probable that this influence may give rise to a specific infectious result. Such is especially the case with consumption, and it is very questionable whether the system pursued in the present day of assembling together a large number of persons suffering with that disease, and bringing them under one roof, is not in many respects productive of mischief rather than of advantage—in fact a great philanthropic mistake.

A GLOSSARY

OF

MEDICAL TERMS IN COMMON USE.

Absorbents, medicines given to counteract acidity, flatulence, or acrimony.
Abdomen, the belly.
Acute, a term applied to disease, denoting it to be violent and speedy in its action.
Adipose, fatty.
Afferent, carrying to.
Alvine, connected with the stomach and bowels.
Anæmia, poverty and imperfection of the blood.
Anæsthesia, loss of sensation.
Anastomose, to communicate together.
Antacid, of alkaline character.
Antiseptic, that which counteracts putrefaction.
Antiphlogistic, this is a term applied to medical treatment which is lowering in its nature, and counteracts inflammatory action.
Anus, the external opening of the lower bowel.
Aphonia, loss of voice.
Areola, a circular band of colour.
Asphyxia, suspension of life.
Atony, want of power.
Atrophy, wasting away.

Bolus, a large soft pill.
Bronchotomy, opening the windpipe by an operation.
Bursæ, small bags secreting a glairy fluid, which are placed in different parts of the body, where there is much liability to pressure or friction.

Cæcum, the commencing portion of the large intestines.
Capillary, the size of a hair.
Cardiac, belonging to the heart.
Cartilage, gristle.
Caustic, having a powerful chemical decomposing action.
Chalybeate, containing iron.
Chest, the cavity within the ribs above the midriff.
Chronic, lengthy, continuous.

Collapse, prostration or exhaustion of the vital power.
Coma, a state of deep insensibility.
Concussion, a shock or shake.
Congestion, a gathering together.
Contagion, a term applied to the communication of disease by immediate contact or touch.
Convalescence, the period between the cessation of disease and the recovery of strength.
Crisis, the period of change or turn in a disease for better or worse.
Cynanche, affection of the throat.

Depilatory, that which has the power of removing the hair from the skin.
Desquamation, the shedding of the skin in scales.
Diagnosis, the recognition and distinguishing of a disease.
Diaphragm, the midriff, a muscular and tendinous membrane which separates the chest from the abdomen.
Diathesis, the constitutional tendency peculiar to each individual.
Diluents, mild fluids, which dilute and weaken.
Distal, that which is towards the extremity.
Drastie, this term signifies powerful and irritating, and is usually applied to purgatives.
Duodenum, the first part of the small intestines.

Echymosis, the exudation of blood in the substance of the skin or mucous membrane.
Effete, worn out, exhausted.
Efferent, carrying from.
Emollient, soothing, softening.
Endemic, a term applied to disease which is due to a special local influence, atmospheric or other, more or less permanent.
Epidemic, a term applied to disease originating in a peculiar temporary at-

- mospheric condition, which may be more or less special and active in its influence.
- Epigastrium*, the pit of the stomach.
- Eustachian tube*, the canal which leads from the throat to the ear.
- Fæces*, the excrement from the bowels.
- Fætor*, bad odour.
- Ferruginous*, containing iron.
- Fluctuation*, as a medical term, it indicates the movement of water or matter in a cavity.
- Fætus*, the unborn child from the earliest existence.
- Ganglion*, a small nervous body, constituting a centre.
- Glands*, vascular bodies which secrete.
- Hepatic*, of or belonging to the liver.
- Hygiene*, of or concerning the preservation of health.
- Idiopathic* is a term applied to a disease which exists by itself, independently of any other.
- Idiosyncrasy*, a peculiarity of constitution.
- Ileum*, the third and longest part of the small intestines.
- Infection*, is a term applied to a disease in reference to its transmission or propagation from one person to another by actual contact or by communication through some intervening medium.
- unction*, rubbing in.
- Iris*, the muscular membrane of the eye, which divides its interior into two chambers.
- Kali*, the old name for potash.
- Lactation*, the secretion of milk.
- Lymph*, colourless blood.
- Malaria*, an evil or impure state of the atmospheric air.
- Maturative*, ripening.
- Metastasis*, the shifting of diseased action from one part of the body to another.
- Nævus*, the term is chiefly applied to an unnatural mark or spot on any part of the body, existing at birth.
- Obesity*, fatness.
- Occiput*, the back of the head.
- Organic*, that which is connected with the substance and structure of the body.
- Osmazome*, the flavouring principle of meat.
- Pathology*, the knowledge of disease.
- Periosteum*, the membranous covering of bones.
- Peritoneum*, the membrane which lines the abdomen, covers the bowels, &c.
- Pharmacy*, the preparation of medicines.
- Phlebotomy*, bleeding from a vein.
- Plethora*, fulness; the term is chiefly applied where there is excess of blood.
- Pleura*, the membrane lining the chest and covering the lungs.
- Precocity*, premature growth and development.
- Ptisane*, or *Tisaue*, the French term for a medicinal infusion or decoction.
- Puerperal*, connected with child-birth.
- Pupil*, the circular aperture in the eye surrounded by the iris.
- Rectum*, the third and terminating portion of the large intestines.
- Renal*, of or belonging to the kidneys.
- Retina*, the internal nervous membrane of the eye.
- Rigor*, a sense of cold, with shivering.
- Sacrum*, a large bone at the lower part of the spine, which supports it.
- Scalp*, the skin of the head.
- Seybalæ*, hard lumps of faecal matter.
- Stertor*, snoring breathing, which usually accompanies apoplexy.
- Styptic*, that which is highly astringent.
- Sudorific*, promoting perspiration.
- Suppository*, a solid medicinal substance, which is introduced into the lower bowel.
- Suppuration*, the formation of matter.
- Syncope*, fainting.
- Synovia*, the fluid secreted within the joints.
- Temperament*, the peculiar nature of the constitution.
- Tetter*, any scaly form of skin disease.
- Thorax*, the cavity of the chest.
- Tonsils*, the mucous glands of the throat.
- Trachea*, the windpipe.
- Ureters*, the canals leading from the kidneys to the bladder.
- Urethra*, the passage from the bladder.
- Vesication*, blistering.
- Viscera*, internal glands and other organs.
- Vouica*, a cavity in the lung.

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A C A T A L O G U E
OF
DOMESTIC MEDICINES, TOILET AND NURSERY REQUISITES,
ETC. ETC.

TWINBERROW'S
DANDELION, CHAMOMILE, AND RHUBARB PILLS,
AN EFFECTUAL CURE FOR
INDIGESTION, AND ALL STOMACH COMPLAINTS AND LIVER
AFFECTIONS.

In cases of constipation they never fail in producing a healthy and permanent action of the bowels, so that in a short time APERIENTS will not be required.

INDIGESTION is a weakness or want of power in the stomach to convert what we take into healthy matter; from it proceeds nearly all the diseases to which we are liable; pain after eating a meal, distension of the stomach, heartburn, acidity, and an unpleasant taste in the mouth—these are some of the consequences; but whatever they may be, they are all occasioned by the food becoming a burthen rather than a support of the stomach, and in all stages the medicine most wanted is that which will afford speedy and effectual assistance to the digestive organs, and give energy to the *Nervous* system. To effect so desirable an object, the *Dandelion, Chamomile, and Rhubarb Pills* can, with the greatest confidence, be recommended; and experience has afforded the most ample proof that they possess all the fine aromatic and stomachic virtues for which Chamomile Flowers have been so justly esteemed, united with other vegetable preparations equally valuable, which, when combined, possess properties peculiarly suitable for indigestion or stomach complaints. This particular preparation of *Dandelion* has an efficient action on the liver, so that mercurials can be avoided. They may be taken by persons at any age, and under any circumstances, without inconvenience.

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From MAJOR-GEN. FITZGERALD, 11th Light Cavalry, Bengal.

"Your Dandelion, Chamomile, and Rhubarb Pills agree with me admirably, and I recommend you to appoint an agent for this Presidency."

From SCOTT, THOMPSON & Co., Chemists, Calcutta.

"We have lately received several communications from our friends in this country favourable to the reputation of your Dandelion, Chamomile, and Rhubarb Pills, and as we think they would find a ready sale, send to us twenty-four dozen boxes to begin with."

ORANGE AND LEMON-PEEL FLAVOURED CASTOR OIL.

In recommending these preparations, W. T. begs to state that they have many advantages over the common castor oil, and that in the process of preparing them, the virtues of the oil are not in the least diminished; it is so agreeable to the palate, that the most fastidious can take it without the least apprehension of its having a nauseating effect on the stomach; on the contrary, it will be found most grateful. For children it is an invaluable preparation, the flavour of the oil being so exceedingly pleasant, that they take it without the least reluctance.

BLOXHAM'S ANTIBILIOUS AND LIVER PILLS.

These pills are prepared from the prescription of Mr. Bloxham, of Halesowen, Worcestershire, a surgeon of eminence, who ordered the same form of medicine so often, and with such decided effect, that W. Twinberrow requested the favour of being allowed to give it publicity.

They will be found of the greatest benefit to those who suffer from a diseased or inactive liver, and hence all the attendant miseries of bilious affections, such as pain in the side and under the shoulder-blades, &c. &c.

AROMATIC BLACK DRAUGHT.

A most agreeable form for administering this usually nauseous draught. It is an admirable domestic medicine, and may be had recourse to in all cases with safety, in the absence of a medical man. It will keep good for any length of time.

TWINBERROW'S

IMPROVED EFFERVESCING CITRATE OF MAGNESIA.

This agreeable preparation will be found the most convenient and efficacious as an aperient in all cases of habitual costiveness; or as a remedy for heartburn, acidity of the stomach, and cutaneous eruptions, it may be taken in smaller doses with equal advantage. Being comparatively tasteless, it may be given to children who frequently refuse the usual aperients.

The effervescent qualities of this light and elegant preparation are retained in the highest degree by its granular form; thereby sustaining its sparkling appearance as well as rendering it the more palatable as a saline draught. It will be found highly advantageous for travellers in tropical climates, as it will retain its qualities unimpaired for any length of time.

VERITABLE BAUME DE VIE,

A MILD APERIENT, TONIC, AND DIGESTIVE MIXTURE.

This is a mild remedy where a warm and stomachic aperient is required, which is often the case in hysterical and hypochondriacal affections, and in certain spasmodic disorders where the bowels have become torpid. It is peculiarly adapted to persons subject to habitual costiveness, indigestion, debility of stomach, flatulence, and torpid liver, &c.; in most cases obviating the use of mercury.

Dose.—One, two, or three tablespoonfuls.

TWINBERROW'S PATENT SEIDLITZ POWDERS,

PREPARED FROM A CORRECT ANALYSIS OF THE GERMAN SPRINGS.

Directions.—Dissolve in a tumbler, three parts full of cold water, the contents of one of the WHITE papers; when dissolved, add the contents of one of the BLUE papers; stir, and drink whilst effervescing.

It is a fact well known to men of science, that when a liquid, containing various saline matters in solution, is concentrated by evaporation, the different salts have a tendency to become deposited in the state of crystals, according to the solubility of each particular kind of salt; and this peculiarity is taken advantage of by chemists, to effect a perfect separation of each kind from a combination of salts. A due consideration of these circumstances led to the original invention of the process by which W. T. commenced his preparation of Seidlitz salts, which, he begs to state, has given universal satisfaction to the medical profession, and a decided preference by those who have taken them, for their agreeable, refreshing effect. They will be found, in a most perfect degree, to possess *every virtue* of the saline waters at the spring, but in a concentrated state as regards the aperient property.

TWINBERROW'S PURE FLUID MAGNESIA,

OF EXTRA STRENGTH.

The great advantages of this preparation are, that being in a FLUID state, yet possessing all the properties of magnesia in general use, it is not liable to form dangerous concretions in the bowels; it corrects acidity and heartburn effectually, without injuring the coats of the stomach; it prevents the food of INFANTS from turning SOUR, and in all cases it acts as an agreeable aperient.

Dose.—Half a wineglassful two or three times a day. Children or delicate

females, one or two tablespoonfuls frequently, alone, or mixed with a little water, sweetened.

*** A teaspoonful of the acidulated lemon syrup mixed with the solution, makes the most delightful of saline draughts, and materially increases the aperient quality.

FLUID CONFECTION OF SENNA.

A mild and agreeable aperient, possessing all the well-known properties of lenitive electuary in a liquid form.

Dose.—One or two dessertspoonfuls at bedtime, or early in the morning, with or without water.

SUPERIOR FLAVOURED GINGERBREAD NUTS,

COMBINED WITH AN ALKALI AND AN APERIENT.

These EXQUISITELY-FLAVOURED ALKALINE APERIENT GINGERBREAD NUTS are composed of the active principle of the SENNA LEAF, deprived of all its unpleasant taste and griping effect; they are peculiarly adapted for children of twelve months old, and upwards, as an effectual and pleasant aperient; and for ADULTS of a costive and flatulent habit they are UNEQUALLED. They are strongly recommended for their EFFICACY, SIMPLICITY, and AGREEABLE FLAVOUR.

CONCENTRATED SWEET INFUSION OF SENNA,

Deprived of all its griping qualities and combined with manna, the smallness of the dose required rendering it most suitable for children and delicate invalids.

The high reputation it has already gained fully testify that it is devoid of all unpleasant taste, that it does not cause griping, and that its operation is certain and uniform. For adults the dose will be from three to four drachms; and the great *convenience* of this preparation will here be manifest to every practitioner, who, by simply diluting this quantity to an ounce and a half, can immediately produce a most efficacious aperient draught, and one likewise very agreeable to his patient.

For children it is most useful, especially as they take it so readily. The medium dose for them is one drachm; more or less in proportion to age. It need only be added that this preparation is purely what it professes to be, a *Concentrated Essence of Senna with Manna*, and as it contains no other drug whatever, it may be administered indiscriminately, and without fear.

TWINBERROW'S FLUID EXTRACT OF RHUBARB.

A very useful and agreeable preparation containing all the active properties of the finest root,—either alone or in combination with the sweet essence of senna, it forms a very excellent aperient. In all cases where it is desirable to administer rhubarb, this form will be found the most convenient, agreeable, and efficacious.

BAEL PRESERVE, OR JELLY,

PREPARED FROM THE FRUIT OF THE *ÆGLE MARMÉLOS*.

Since the introduction of the BÆL (as a remedial agent) in this country, its value in allaying irritation of the mucous membrane, and its assistance to those suffering from impaired digestion, has not been overrated when used in the form either of decoction, or extract in pills.

This preparation, the PRESERVED JELLY, when eaten at meals as marmalade, relieves that habitual constipation (without inconvenience) from which thousands suffer, and at the same time removes, or rather prevents, flatulence, and assists digestion.

The quantity usually taken is from one to two tablespoonfuls on bread or toast at breakfast or in the evening; but each person must regulate the quantity to his own peculiar case.

TWINBERROW'S GOUT AND RHEUMATIC PILLS.

These pills may be relied upon as the most safe and efficacious preparation for the above complaints.

W. T. can only say they rarely, if ever, fail in affording speedy relief without at all *impairing the state of the stomach*, or in any way producing an injurious effect on the constitution; the ingredients being of that *simple character*, it was a matter of surprise to the physician (who for many years prescribed them) how such extraordinary effects could be produced from so *innocent* a combination.

These pills may be had recourse to in all stages of the above complaints; the only thing necessary to be attended to, is to take an active aperient pill at night, (such as Bloxham's pills, with a Seidlitz powder in the morning) two or three times a week.

TWINBERROW'S APERIENT PILLS,

For general use in families, schools, and households. *Dose*.—One, two, or three at bedtime.

TWINBERROW'S STOMACHIC OR DINNER PILLS,

Composed of rhubarb, ginger, and antacids. The operation of these pills is mild and highly beneficial; they give tone to the stomach, and diffuse a general stimulus throughout the whole frame.

TWINBERROW'S APERITIVE SEEDS.

These minute and tasteless pills contain all the active, yet mild and innocent properties of castor oil. They are a safe family medicine, alike suitable to ladies in the most delicate circumstances, or to children who so much object to taking the oil.

DR. GREGORY'S STOMACHIC POWDER.

Prepared from the original recipe of the late Dr. Gregory, of Edinburgh.

Dose.—For an adult, one or two large teaspoonfuls taken at bedtime or early in the morning in common or peppermint water.

CHOICE SELECTED MANNA,

Of the finest quality, in boxes.

VEGETABLE APERIENT BON-BONS,

Very agreeable and mild in their action.

GREY POWDER AND CALOMEL LOZENGES,

Of different strengths, and free from unpleasant taste.

ORANGE QUININE WINE.

An elegant and grateful bitter, which may be taken with much benefit by invalids recovering from such diseases as have reduced the strength of the constitution.

W. TWINBERROW RECOMMENDS WITH CONFIDENCE HIS

COD LIVER OIL.

In consequence of its not undergoing any purifying process, its medicinal qualities cannot be affected. That it may now be relied upon as a valuable remedy, experience has fully proved beyond all doubt; but the great objection to its general use has been its disagreeable flavour, few invalids being able to retain it, which objection has been overcome in this preparation, in consequence of the *DELICACY* observed in

preparing it, the attention paid whilst the LIVERS *are under the influence of* HEAT, and the great caution exercised in obtaining them QUITE FRESH.

IN CASES WHERE IT IS OBJECTED TO, W. T. BEGS TO RECOMMEND HIS
AROMATIC COD LIVER OIL,

Which is really agreeable to take, and its medicinal effects in no way affected by the addition.

SOLUTION OR ESSENCE OF QUININE.

Directions for Use.—Four tablespoonfuls may be added to a bottle of good Madeira or sherry wine, and a wineglassful of the mixture taken once or twice a day. Should wine, however, disagree, a teaspoonful of the solution may be taken in a wineglassful of cold water twice a day.

TWINBERROW'S TONIC BITTER.

Prepared from the rind of the Seville orange, recommended as the best vehicle for the administration of COD LIVER OIL.

TWINBERROW'S COMPOUND AROMATIC PILLS OF STEEL.

In CHRONIC cases, no medicine has been found more efficacious than STEEL; when *chemically prepared* it gives tone to the relaxed fibres and strengthens the whole system, and, by promoting a *genial* warmth, exhilarates the animal spirits.

These pills are deemed an important remedy for all complaints wherein the use of steel is necessary. As a general tonic, they stand unequalled, and are very extensively recommended to delicate females, and are attended with decidedly beneficial results.

LIQUOR BELÆ.

Prepared from the unripe fruit of the ægle marmelos, by a process whereby the whole of the medicinal properties are obtained in a very convenient and portable form.

Dose.—In violent cases of dysentery and diarrhoea, three teaspoonfuls every two or three hours; in milder attacks, the same dose three or four times a day.

For irritation of the mucous membrane, two teaspoonfuls three or four times a day. In attacks of flatus and distension of the stomach after eating, two teaspoonfuls after each meal.

TWINBERROW'S ESSENCE OF WORMWOOD.

The medical effects of wormwood have lately been brought under the notice of the profession by several of our most eminent practitioners, as a tonic possessing very peculiar and desirable properties, which BARK and its preparations, such as QUININE, &c., and any other tonic, do not possess. The preparation of wormwood hitherto introduced has been the infusion; there are many objections to this, in consequence of the boiling water extracting so much extraneous matter, which frequently disagrees with the stomach, and more frequently destroys the pure medicinal properties of the plant itself.

W. TWINBERROW, in introducing his ESSENCE OF WORMWOOD to the notice of those suffering from general debility, loss of appetite, indigestion, dyspeptic, nervous, gouty affections (having previously submitted it to many medical gentlemen, whose unqualified sanction, after prescribing it, he obtained), begs to say it is totally different in effect to every other tonic; it is neither astringent nor stimulant, neither does it affect the head, but has a tendency to promote the action of the bowels, and a permanent effect may at all times be relied on.

A medical gentleman in extensive practice has been pleased to say: "I consider it far superior to any other tonic I ever applied in cases of debility, attended by a costive habit and irritability of the stomach; it is the very medicine to answer the purpose of counteracting such symptoms. From what I have seen of its effects I consider it a remedy of the greatest efficacy, and have not the least doubt it will be found so by every medical practitioner."

FLUID EXTRACT, OR CONCENTRATED DECOCTION OF SARSAPARILLA AND DANDELION COMBINED,

Combining in a convenient form the essential properties of both plants. Dr. Johnson says: "This preparation is of the greatest benefit in emaciated constitutions, and is strongly recommended to those whose constitutions have been injured by residence in hot climates."

VIN DE QUINQUINA, OR PERUVIAN BARK WINE.

Prepared with Bordeaux, Malaga, or Madeira wines; an excellent and agreeable tonic, much resorted to on the Continent.

DAUN'S CARMINATIVE MIXTURE,

Is one of the most useful and desirable family medicines for diarrhœa attended with griping pains and Asiatic cholera. It never fails to give instant relief by following the directions on each bottle, and is a medicine for cholera which can be relied on.

TWINBERROW'S LIQUOR TARAXACI,

Is a solution of all the medicinal properties of dandelion.

One ounce of this solution is equal to three drachms of the pure extract. (Although this is much stronger than a similar preparation, which has been for some time deservedly held in repute, W. T. contends the strength of his Liquor is not greater than it should be to produce a decided effect in a reasonable time, in which opinion he is borne out by high authority.)

FLUID EXTRACT OF SARSAPARILLA,

CAREFULLY PREPARED FROM THE BEST JAMAICA ROOT.

Two tablespoonfuls of which are equal to a pint of the decoction made by the usual troublesome and tedious process.

It is well known that sarsaparilla sweetens the blood, improves a bad habit of body, and by giving the entaneous vessels a healthy and regular action, removes that disposition to erysipelas, inflammation, and those affections resembling it, from which so many persons periodically suffer, and that it also frees the system from what may be termed the sequelæ of a mercurial course. When taken in the spring and fall of the year, as an *alterative medicine*, it will be found to impart that stamina to the constitution which is indicated by firmness of flesh, regularity of appetite, and freshness of the complexion.

EFFERVESCENT CARBONATE OF IRON,

AN ELEGANT FORM OF CHALYBEATE.

Prepared agreeably to the form of THOMAS SKINNER, M.D., Liverpool.

Believing that the protoearbonate of iron, even in a solid state, is one of the best preparations we can administer in the thousand and one diseased conditions in which chalybeates prove useful, and that its present official preparations are incapable of preserving it from decomposition for any reasonable length of time, I have

long thought it a desideratum to obtain it nascent, and in a soluble form, at the time of indigestion. I am now happy to state that, after a great deal of trouble and experimenting, both by myself and various experienced chemists, I have, at last, succeeded in obtaining the protocarbonate in the permanent and elegant form of an effervescing granular powder.

Physical and other Properties.—When the above is carefully prepared, it has all the appearance of the popular and well-known granular effervescent citrate of magnesia, with the addition of a slight yellowish green tint. Every drachm and a half contains ten grains of sulphate of iron, which, with a complement of bicarbonate of soda, is certain to produce, in a state of solution, four grains of nascent protocarbonate of iron. At the same time there is developed a tartrate, with a little citrate and sulphate of soda, which is, if anything, an advantage, as they act the part of a very gentle saline aperient, obviating the usual astringent effect of preparations of iron, as well as the too frequent constipation attending cases requiring chalybeates, particularly amongst females. The taste of it depends very much upon the amount of dilution. When taken in the dose and manner hereinafter recommended, the taste is that of a mild, sparkling, and refreshing chalybeate.

After the effervescence subsides, a perfectly clear, light-green solution remains, which, if allowed to stand for some time, becomes a deeper green colour on the surface, gradually increasing from above downwards, and floating like a cloud upon the upper stratum of the liquid. This appearance was at first mistaken for oxidation, but the more correct explanation seems to be that it is the carbonate of iron which was retained in solution by excess of carbonic acid gas; that, as the excess escapes from the surface, the carbonate separates from the solution in the form of a fine cloud, and becomes ultimately precipitated in the form of an impalpable powder. So far as permanency is concerned, the preparation has stood the test of several months, and it now remains as good as the day when it was made.

Dose, Uses, Mode of Administration, &c.—The dose is a teaspoonful, more or less (about a drachm or a drachm and a half), twice or thrice a day, in half a tumbler or more of water, an hour after, between meals, or upon an empty stomach, as is found most suitable. Dilution, within reasonable bounds, increases the tolerance of the remedy and favours its therapeutic action. It may be drank during the action of effervescence, but it seems to me preferable immediately after it subsides. When a prolonged course of iron is required, this preparation will never take the place of the protosulphate, the iodide, or the sesquichloride; but where a moderate course of a few days, or a week or two, is necessary, it will be well borne by the stomach. It is not only well borne, but it seems to produce a much more manifest chalybeate effect within a given time and in a smaller dose, than any other preparation of iron with which I have had experience.

In facial or other forms of neuralgia, arising from anæmia or other cause relievable by iron, and particularly if the bowels are at all torpid, a few doses often act like a specific. It ought, however, to be continued after the pain disappears, so as entirely to remove the condition upon which the neuralgia depends. I may remark that the quantity of iron, and the aperient effect, might be doubled if required; the present proportions, however, have been found by experience to be the best for ordinary purposes.—*British Medical Journal*, June 11th.

GRANULATED EFFERVESCENT VICHY SALTS,

FOR THE IMMEDIATE PRODUCTION OF VICHY WATER, IN AN
ELEGANT AND REFRESHING STATE.

Prepared from salts imported by the Vichy Waters Company, direct from the Springs.

Dose.—A teaspoonful in a small tumbler of water.

GRANULATED

EFFERVESCENT CITRATE OF CINCHONINE AND IRON,

AN AGREEABLE, REFRESHING TONIC, WHERE QUININE DISAGREES.

Dose.—A teaspoonful.

CONCENTRATED PERUVIAN BARK,

ONE DRACHM IS EQUAL TO ONE OUNCE OF THE FINEST BARK,

And may be given with acids, alkalies, and tinctures, in water.

Dose.—From five to ten grains.

The properties of Peruvian Bark have long been appreciated, and largely prescribed in medicine. On account of its bulk, different kinds of preparations have been suggested and introduced. Quinine stands most prominent amongst them, and may be called the most essential part of cinchona barks.

In many cases Continental and other medical men prefer cinchonine and its salts; others, decoctions and extracts; and again, others syrups and liquors; but *none* of these preparations will ever represent the *whole* of the properties of the Peruvian Bark.

This Concentrated Preparation alone possesses *ALL* the properties of the best PERUVIAN BARK; it therefore combines the action of *Quinine, Cinchonine, Quiniodine, Quinidine, Kinic Acid*, and other educts.

TWINBERROW'S LEVIGATED PURE WILLOW CHARCOAL,

Purified and properly manufactured, is well known to the Faculty to possess important properties, and to be a safe, agreeable, and effective remedy for many very troublesome and distressing maladies of the stomach and bowels.

Willow Charcoal Powder, in doses varying from one-third to a teaspoonful, taken in a little water, or wrapped in wafer paper, after each meal, has been for a long period a favourite remedy in America, the Indies, and in many parts of Europe, for nervous dyspepsia and other painful disorders of the stomach and bowels. It promotes digestion, and prevents flatus from over-distending the stomach, thus affording a weak stomach every chance of recovering a healthy tone and action.

"In nervous affections of the stomach and bowels—in those complaints which are so prevalent, and attended with so much pain and inconvenience, but which do not confine the sufferers to their bed, such as weight and uneasiness after eating, nervousness from laborious digestion, dyspepsia, pain in the chest, waterbrash, &c., for each of these disorders the powder of charcoal is most effectual in relieving pain, restoring the digestive powers, improving the appetite, and enabling the stomach to bear food."—*Dr. Belloc, Surgeon-Major in the French Army.*

"The medicinal value of prepared willow charcoal (*Carbo Ligni Salicis*) was fully ascertained by army medical officers during the last war in the Mediterranean and West Indies. It proved a valuable remedy in dyspepsia, intermittent and remittent fevers, acute dysentery and diarrhoea; and as the organs and membranous tissues affected in the two last-named diseases are the same which cholera attacks, it may be inferred from analogy that charcoal will be beneficial in that most formidable malady."—*Extract from Dr. Borland's (Inspector of Hospitals) Letter to the Board of Health.*

Dr. Borland further states—"That many persons not positively valetudinary, nor foregoing their ordinary occupations, but suffering annoyance from indigestion, flatulence, nausea, unpleasant taste in the palate, and offensive odour in the breath, have to his knowledge been entirely relieved from all these gastric evils by the use of small doses of charcoal powder."

TWINBERROW'S

LEVIGATED PURE WILLOW CHARCOAL LOZENGES,

FLAVOURED WITH ORANGE FLOWER WATER.

PAINS AZYMES, OR FRENCH WAFERS,

In which the most nauseous powder, pill, or electuary, can be taken without being tasted.

Directions for Use.—Having previously moistened the Wafer with water, place the medicine to be taken in the centre, and draw up the edges of the Wafer, over it; this can then be taken with ease.

PURE SPIRIT OF SAL VOLATILE.

W. T. begs to observe that his Sal Volatile is a pure neutral carbonate, and although not possessing the *powerful pungent* property of much that is introduced, yet produces more medicinal effects. The usual method of making it pungent is by the addition of STRONG LIQUOR AMMONIA, the great objection to which is its very *caustic* property, instead of acting as an agreeable *cordial stimulant and anti-spasmodic*.

CAMPHORATED SPIRIT OF SAL VOLATILE.

In all cases where Sal Volatile is given, it is universally acknowledged by the medical profession that its effect is greatly increased if taken in camphor julep. The great advantage of this unique preparation is, that by adding it to water the camphor julep is simultaneously formed with sal volatile in solution.

AROMATIC CORDIAL GINGER, WITH ORANGE PEEL.

This agreeable preparation possesses all the properties of the finest Jamaica ginger and orange peel combined.

Dose.—Two tablespoonfuls alone, or mixed with a little warm or cold water if more agreeable.

CONCENTRATED ESSENCE OF JAMAICA GINGER.

Prepared from the finest Jamaica Ginger, and possessing all the aromatic qualities of that drug, so valuable to gouty constitutions, flatulent and spasmodic affections of the stomach, indigestion, &c.

TWINBERROW'S POWDERED JAMAICA GINGER.

This Powder is ground from the finest Jamaica Ginger, the fibres being separated from it, leaving the farina only, which will be found very pungent and aromatic.

TWINBERROW'S CONCENTRATED ESSENCE OF CAMPHOR,

FOR MAKING CAMPHOR JULEP.

This preparation allays and calms nervous irritability, exhilarates without raising the pulse or heating the constitution, produces refreshing sleep under certain conditions of the body when opium fails, and warms and comforts the stomach. A safe and efficacious antispasmodic draught may be made with fifteen drops of the solution of camphor, and thirty drops of sal volatile in a wineglassful of warm water.

CHLOROFORM PEARLS,

A CERTAIN, SAFE, AND EFFECTUAL PREVENTATIVE OF SEA-SICKNESS.

RENNET WINE, A NEW PREPARATION OF PEPSINE,

PREPARED FROM THE GASTRIC JUICE OF THE CALF'S STOMACH.

The process for this Preparation is founded upon the observations of Dr. ELLIS. Instead, however, of digesting the calf's stomach in the wine, as recommended, the Pepsine is first eliminated, and then in the pure state dissolved in the menstruum. Thus prepared, it is an agreeable, slightly acidulous wine, which retains its activity unimpaired, and a teaspoonful of which contains a dose of Pepsine, in a form that will be palatable to the most delicate stomach.

To the physiologist it is unnecessary to say that it should be given *after* or *during* and not before meals. It is not, perhaps, easy to explain the operation of this small quantity, when we consider the large supply of the gastric secretion required for the thorough digestion of an ordinary meal. The action is probably due to those indirect chemical changes called catalytic transformations, which some organic substances, by their mere presence and contact, induce in each other and in other proximate principles. Thus the conversion of a small portion of food in the stomach into healthy albuminose by this small quantity of sound gastric juice may induce the same healthy action throughout the contents of the stomach during the entire process of digestion. It is at least equally difficult to explain the action and rapid extension of ferments generally in their appropriate solutions. I have often been forcibly struck by the magical effect of the dose in removing offensive odour from the breath of young persons—a distressing symptom sometimes aggravated rather than relieved by purgative medicines, and I may also mention that in one of these cases cod-liver oil was easily tolerated afterwards, though never before.

That a supply of good gastric juice to the stomach, after its reception of food, is indispensable for healthy gastric digestion, is a truth that needs but little comment. Defect in quality of this fluid may be considered one of the most frequent starting points, often overlooked as such, of many diseases which surely, though it may be slowly, undermine the constitution and shorten life. Few of us are entirely exempt from some of the immediate consequences of unhealthiness in this secretion. *Acid eructations, gastralgia, thirst, foul tongue, vertigo, headache, and nausea*, are, under the name of dyspepsia, among the commonest affections treated by medical men in themselves and others: and the consciousness of the want of some substitute or corrective, better than any our present Pharmacopœia can offer, has led to the very extensive trial of a costly preparation, still prescribed pretty largely, under the supposition that it contains the active principle of the gastric juice. Of the preparation, called *pepsine*, I (Mr. Ellis) can only say that, having tried it more than once, I have failed to discern its utility.

About two years since, failing to obtain benefit from ordinary pepsine, I had recourse to the direct preparation of a solution of gastric juice from the calf's stomach; and I have found the result so *gratifying*, its effect in *gastric derangements so satisfactory and remarkable*, both in my own hands and in those of several medical friends to whom I recommended it, that I wish to communicate it to the profession more extensively.—(*Extract from Mr. Ellis's Paper on Pepsine.*)

ARROW-ROOT.

The produce of the root-like tuber of the "Maranta" and "Tacca" Tribes. A decided preference is given to Bermuda Arrow-Root on account of its purity of flavour and entire freedom from any irritating quality; the sort marked thus— is the finest imported, which purchasers will do well to observe, as every other is much inferior. As a test, this Arrow-Root will continue, when cold, in stiff jelly for any length of time, whilst other qualities become watery.



TOUS LES MOIS.

From the Rizome of species of "Canna." This article may be said to be a variety of Arrow-Root, more economical, easy of digestion, and never turns sour on the stomach.

TAPIOCA.

The fecula of the root of the "Janipha Manihot" of Brazil. Its uses are similar to Arrow-Root, and is useful for forming nutritive soups and puddings.

ROBINSON'S PATENT BARLEY AND GROATS.

Preparations from Barley and Oats. Exceedingly efficient for the quick and easy production of Barley Water, Gruel, &c.

HARD'S FARINACEOUS FOOD.

A preparation from Wheat Flour, analogous to "Biscuit Powder" and "Tops and Bottoms," but *far superior*, according to the certificates of eminent physicians, being prepared with uniform care from the finest grain only—

PEARL SAGO.
PEARL BARLEY.
RUSSIAN ISINGLASS.
EXTRACT OF CALVES' FEET, superior for Jellies and Blanc-mange.
GELATINE, NELSON'S.
CURRY POWDER, very superior.
CAYENNE PEPPER.
JAMAICA GINGER, picked.

POWDERED JAMAICA GINGER.
NUTMEGS, finest.
CLOVES.
MACE.
ALMONDS.
COCOATINA, prepared from Cocoa Nibs, with the Oil separated.
ALMOND FLAVOUR.
LEMON FLAVOUR.

SCHWEITZER'S COCOATINA,

Is deservedly held in great repute and highly recommended to invalids and children, being four times the strength of any other Cocoa extant, and free from fatty matter.

DANDELION COFFEE.

An agreeable and wholesome beverage for breakfast or tea.

DANDELION, when obtained at a proper season of the year, is taken with the greatest advantage in all Liver Complaints, and other Chronic Visceral Affections, Indigestion, and Nervous Complaints.

The virtues of the fresh root, prepared by W. TWINBERROW'S process, are delicately and carefully preserved in his Coffee, and through its salutary effect and being an agreeable substitute for Coffee or Tea, it has met with the approbation of all who have partaken of it, and is recommended by the Faculty.

The Dandelion Coffee is used in the same proportion as Coffee, and prepared in the same way. Dr. JEPHSON recommends two parts of Dandelion and one of best Coffee, with sugar and boiling milk to your liking.

GLUTEN BREAD,

Or Bread deprived of its Saccharine Matter, Starch, and Gum; one pound of which contains the nutritive or nitrogenous, or flesh-making principle of six pounds of the best Wheat Bread.

The advantages of a Bread containing the substance of which the Body is composed and built up, deprived of all its *non-nitrogenous* principle, is sufficiently evident to the Medical Profession; hence the high estimation in which it is held at our principal Hospitals for Diabetes, Indigestion, General Debility and Loss of

Muscular Fibre in adults and children, and also in a variety of other complaints where the nourishment of Wheat is required in its concentrated form, destitute of its *heat-giving elements*, supplying all the required nourishing matter most easily digested, and assimilated in a compact form, *without the admixture of other matter not needed in the system*.

To be taken in the usual way as a substitute for ordinary Bread.

ACIDULATED IPECACUANHA LOZENGES,

Containing Ipecacuanha, Gum Arabic, Black Currant Paste, and one fortieth of a grain of Morphia in each Lozenge.

LONG-LIFE DIGESTIVE DINNER TABLETS,

Composed of Rhubarb, Carbonate of Soda, Ginger, Cardamoms, and other stomaehic ingredients.

ASTRINGENT THORACIC LOZENGES,

FOR RELAXED THROATS,

Invaluable to Public Speakers and Singers, for bracing up the vocal organs and giving elcarness to the voice.

SODA AND GINGER LOZENGES,

For Heartburn, Flatulency, Acidity and Weakness of the Stomach, and Digestive Organs.

ICELAND MOSS AND MARSHMALLOW LOZENGES,

An excellent mucilaginous demulcent, soothing to the chest and throat.

PURE TANNIN LOZENGES,

PURE TANNIN LOZENGES, WITH CAYENNE.

Well adapted for the relief of Throat Affections where the vocal organs are relaxed; approved of by Clergymen and Public Singers.

POTASH AND GINGER LOZENGES.

For correcting Acidity, Heartburn, &c.

DELECTABLE LOZENGES.

Composed of Marshmallow, Tolu, Liquorice, and other demulcent and expectorant ingredients.

ANT-ACID LOZENGES.

BLACK CURRANT ditto.

CALOMEL LOZENGES, one, two,
and three grains.

CAYENNE LOZENGES, strong.

CINNAMON ditto.

GINGER ditto.

GELATINE ditto, NELSON'S.

IPECACUANHA ditto.

LAVENDER ditto.

LEMON ditto. LETTUCE ditto.

MAGNESIA LOZENGES.

MORPHIA ditto.

MUSK ditto.

OPIUM ditto.

PAREGORIC ditto.

ROSE ditto.

SODA ditto.

TOLU ditto.

TANNIN ditto.

PONTEFRAC T CAKES

VOICE JUJUBES.

TWINBERROW'S CONDENSED GARGLE.

This powder will be found a most valuable addition to the Family Medicine Chest, and very convenient for travelling, as it occupies but little space and is very readily prepared.

Directions.—Add a teaspoonful to half a pint of water. When dissolved, it is ready for use.

ANODYNE OPODELDOC, COMBINED WITH ARNICA.

No preparation has ever been discovered so effectual as this Embrocation for either CHILBLAINS or RHEUMATISM. By attending to the directions on each bottle, one or two applications will invariably and most effectually subdue all itching and inflammation of CHILBLAINS, and for RHEUMATISM its effects are equally beneficial in removing the pain. For weak joints it may be applied with the greatest advantage.

THE EYE LOTION,

As prescribed by the late Dr. LENOR, of Graefreath, Prussia, Oculist to the King of Hanover.

TWINBERROW'S PREVENTIVE OF THE BITES OF INSECTS.

This article is very successful in preventing the bites of mosquitoes, bugs, fleas, &c.; it is, therefore, of great value to persons on board ship, or visiting hot climates, where insects abound.

TWINBERROW'S ANTI-ERUPTION POMADE,

An infallible cure for all eruptions, whether on the body or head, including ring-worm.

Directions for Use.—For every description of *Cutaneous Affection*, gently rub this *Pomade* over the part affected night and morning; then spread a little on some linen rag, or lint, and lay it over the anointed part. If on the LEG, a *wet* BANDAGE should be worn over the application. For CUTANEOUS affections of the HEAD, such as RINGWORM, the POMADE should be well rubbed into the Eruption.

TWINBERROW'S CONCENTRATED DECOCTION

OF

CHAMOMILE FLOWERS AND POPPY HEADS,

FOR FOMENTATION.

A tablespoonful added to a pint of hot water forms the Decoction of Poppies and Chamomiles, in such general use as a fomentation.

KREUZNACHER BITTERN, FOR BATHS.

Directions.—The contents of one bottle may be used for an adult, and gradually increased according to the severity of the case and constitution of the patient. Less should be used for children. Marine salt is recommended to be added to the bath.

As a fomentation in glandular enlargements, for ovarian tumours, or affections of a serofulous character, one part of Bittern to six of water should be used with Spongio Piline.

MARINE SALTS,

FOR THE INSTANTANEOUS PRODUCTION OF SEA WATER.

The beneficial results of sea bathing and the power of sea water as a discutient, employed either internally or externally, are so well known and have been attested with so much advantage as to require no comment; it has been found that those beneficial effects are capable of considerable increase by concentrating the saline properties of the water. This can readily be accomplished by a slow and careful evaporation as noticed by E. Schweitzer, Esq., in his paper on "Sea Water," published in the 'London and Edinburgh Philosophical Journal,' No. 93, February, 1839; but this process, a delicate and difficult one at all times, is perfectly impracticable, except in the neighbourhood of the coast; persons, therefore, residing inland are thus prevented availing themselves of its use in many instances where it might be essentially serviceable. To obviate this difficulty, W. TWINBERROW with confidence recommends the Marine Salt, prepared for him at Brighton, to the notice of the medical profession. It is capable of bearing the most strict chemical examination, and when dissolved in soft water in the proportions directed, will produce sea water as it exists in its natural state in the British Channel, or in such other degrees of strength as may be deemed applicable to each individual case—such waters containing the whole of the component parts unchanged, more especially the bromides and chlorides, salts so readily decomposed.

A solution of common or bay salt is frequently substituted for sea water, but from the bromides and chlorides, most essential parts, being wanting, its medicinal effects cannot be obtained.

DE RHEIMS' STIMULATING PAPER.

Directions.—Take as much paper as may be required, wet the part affected, and lay the polished side of the paper next to the skin.

TWINBERROW'S ESSENCE OF MUSTARD SEED.

A perfect substitute for mustard poultices, without the trouble of making, or the disagreeableness of applying which is attendant on the ordinary poultice.

Saturate linen or lint with the essence, and apply to the part affected, covering in with oiled silk.

SPECIFICS FOR CORNS, BUNIONS, AND WARTS.

Circular White Felt Corn and Bunion Plasters.

Amadou Corn and Bunion Plasters.

Opiated „ „

Sawyer's „ „

The Corn Rubber and File.

The Solvent, for the destruction of corns, bunions, and warts, without pain or inconvenience.

Strong Glacial Acetic Acid.

THE DESIRABLE EFFECT PRODUCED BY THE APPLICATION OF

MARROW CREAM, OR LIQUID LEAMINGTON POMADE,

In preventing hair falling off, induces W. TWINBERROW to recommend it most confidently to the public as an effectual application; he refrains from further particulars as to its extraordinary properties, feeling assured that it requires but a trial to convince the sceptic of its sanative properties.

TESTIMONIALS.

From Mrs. GRIERSON, Lochoale, near Dumfries.

"Your Marrow Cream, I must tell you, has done me a wonderful deal of good in preventing my hair falling off, which it was doing to a fearful extent, when I was recommended your preventive. I have much pleasure in acknowledging that it has had a most decided effect upon my hair and of many of my friends that I have recommended it to."

5, Prince's Park Terrace, Liverpool.

"Mrs. GRAINOER informs Mr. Twinberrow that his Marrow Cream is one of the best possible preparations for preventing the hair falling off."

TWINBERROW'S TOILET VINEGAR,

Of tonic and balsamic properties, and warranted to consist purely of vegetable and innocuous substances.

It is principally used, as the name indicates, for the toilet. By mingling a little with water, it will be found refreshing and softening to the complexion; and when used in warm weather will impart a delightful coolness to the skin.

As a perfume for the handkerchief it is also agreeable and refreshing, particularly when used at a theatre or crowded assembly.

Gentlemen will find this Vinegar a nice adjunct to their toilets, as it allays the irritation of the face caused by shaving; also to use after smoking, to remove or cover the odour of tobacco.

The addition of about a wineglassful of this Vinegar to a bath will be found highly pleasant and salubrious, particularly where the bath is taken after a long journey or fatigue from any cause.

ZINC CREAM,

More efficacious than either cold cream or lip salve, and equally agreeable.

PREPARED FULLER'S EARTH,

FOR THE NURSERY, ETC.

Will be found very superior, and better adapted for every purpose for which hair powder is used, and equally innocent.

KALYDOR, OR MILK OF ELDER FLOWERS.

For preserving, whitening, and softening the skin, and imparting to it a delicate clearness, preventing freckles, &c. It will be found superior to all other cosmetics, and is peculiarly adapted for the face, hands, and arms, not only as a beautifier, but as an effectual preventive against the keenness of the winds, the severity of the frosts, and the effects of the sun.

CONCENTRATED BANDOLINE,

FOR BRAIDED FRONT HAIR, AND FOR KEEPING SHORT HAIR IN ORDER.

The greatest advantages in this preparation are: firstly, its portability; secondly, its keeping for any number of years in any climate; and thirdly, being the cheapest and best preparation of the kind.

PURIFIED MARROW OIL,

A PARTICULARLY NUTRITIOUS AND ECONOMICAL PREPARATION FOR THE HAIR.

PURIFIED MARROW OIL is produced from animal marrow, and is conceived to be the most admirable discovery for producing a beautiful curl, and giving even to artificial hair a peculiar softness of texture and luxuriant appearance.

EXTRACT OF ROSEMARY AND ORANGE FLOWERS,

FOR CLEANING THE HAIR.

RITTA WASH,

Extensively used by natives of the East for strengthening and cleaning the hair.

AMERICAN BAY RUM,

An agreeable and refreshing wash for the hair.

SIR CHARLES LOCOCK'S CELEBRATED LOTION,

PREPARED STRICTLY ACCORDING TO HIS ORIGINAL PRESCRIPTION.

It is a cool and refreshing wash for the head, checks the falling off, and invigorates the growth of new hair, giving it a brilliant appearance, and effectually removing dandriff.

ERASMUS WILSON'S

STIMULATING CAPILLARY LOTION AND POMADES.

OLDRIDGE'S BALM OF COLUMBIA.	HOPGOOD'S CREAM.
RIGG'S EXTRACT OF ROSES.	ATKINSON'S BEAR'S GREASE.
ROWLAND'S MACASSAR OIL.	DOUGLAS' POMADES AND WASHES.

TWINBERROW'S LIQUID NIPPLE BALSAM.

This very innocent preparation, by forming an artificial skin, and possessing great healing properties, is peculiarly adapted for sore nipples.

TWINBERROW'S IMPROVED INDIA-RUBBER NIPPLES.

These nipples, being manufactured with the greatest care, are very durable; they are not influenced by heat, and are especially adapted for warm climates.

The apertures are of three sizes, Nos. 1, 2, 3, and are suitable for fluids of various consistencies, and for any feeding bottle on which an india-rubber nipple is used.

Each nipple is sold in a case, and marked with its number; the smallest size aperture is No. 1.

The Japanned India-rubber Nipples.

The Brown or Enamelled Nipples.

The White or Vulcanized Nipples.

INDIA-RUBBER SHEETING.**DILL SEED, ANISEED, & ALL OTHER MEDICINAL WATERS.****DR. WARNSBOROUGH'S IMPROVED NIPPLE PROTECTOR,**

FOR THE PREVENTION AND CURE OF SORE NIPPLES,

Patronized by SIR CHARLES LOCOCK, and other eminent Members of the Medical Profession.

(The following is an extract from the Lancet.)

As a preventive it is requisite only to state that it *effectually* accomplishes the desired end—IF APPLIED IMMEDIATELY AFTER DELIVERY. The nipple is contained in a reservoir in the cavity of the shield, which prevents pressure, and by adhering closely to the breast, may be worn with the dress.

The superiority of the Improved Protector consists in its *anatomical construction, increased curative properties, close and comfortable adaption to the breast, and perfect protection of the nipple immediately on its application.*

N.B.—It is not injurious to the infant.

O'CONNELL'S PATENT SIPHONIA.

The much admired and approved infants' feeding bottle, acknowledged to be the most perfect and original contrivance ever invented, to assist in the rearing of infants.

EVERY OTHER DESCRIPTION OF FEEDING BOTTLES.

PARCHMENT TEATS.

The delicacy of this description of teats renders them superior to every other. They are not liable to decompose like the calves' or india-rubber teats.

TWINBERROW'S CAMPHORATED ANTISEPTIC DENTIFRICE,

Is composed of precipitated chalk, with vegetable compounds of highly balsamic properties, and camphor, which acts as a gentle stimulus to the gums, thereby exciting the action of the salivary glands, at the same time quieting the nerves and preventing tooth-ache. The alkaline properties tend to correct all acid which produces tartar on the teeth, and is decidedly the pleasantest dentifrice that can be used, as it sweetens the breath, and imparts a delightful coolness and freshness to the mouth.

TWINBERROW'S QUININE DENTIFRICE.

The tonic strengthening and invigorating properties of this tooth powder are too well known to need comment.

TWINBERROW'S MATICO DENTIFRICE.

RECOMMENDED WHEN THE GUMS ARE IN A TENDER AND SPONGY
CONDITION ; OR THE TEETH BECOME LOOSE.

This powder possesses the styptic qualities of the matico, combined with deterative and antiseptic ingredients of proved excellency ; and being perfectly free from acid or alkaline properties, is incapable of exerting an injurious action upon the enamel or dental tissues.

Matico is a medicinal plant found in South America, and has long been in repute among the natives on account of its extraordinary styptic and healing properties. It was introduced to the notice of the medical profession in this country, by Dr. Jeffreys, of Liverpool. The very high encomiums passed upon it by that distinguished practitioner, could not fail to direct the attention of the Faculty to it. Extensive trials of its efficacy were accordingly made, and with such satisfactory results as have led to its extensive use.

ITS AROMATIC, STIMULANT, AND STYPTIC QUALITIES, give to the Matico some peculiar and important advantages as a Tooth Powder ; and since its first use as such, experience has fully confirmed the anticipations formed from its medicinal excellence in the more formidable cases detailed by the writer above-named, and the proprietor has confidence in the superiority of this preparation over most other dentifrices that have come under his notice, and that are in common use.

TWINBERROW'S DENTIFRICE.

For cleaning and preserving the whiteness of *Artificial Teeth*, and for occasional use when tartar has been allowed to accumulate on the natural teeth.

Twinberrow's Calcined Areca Nut
Tooth Powder.

Twinberrow's Precipitated Chalk and
Orris Root Dentifrice.

Twinberrow's Camphorated Chalk
Tooth Powder.

Rowland's Celebrated Odonto.

Twinberrow's Levigated Cuttlefish Den-
tifrice.

Twinberrow's Vegetable Tooth Powder.
Smith's Ant-acid Dentifrice.

Dunn's Aromatic Antiseptic Tooth Paste.

Dunn's Aromatic Quinine Tooth Paste.

Dunn's Aromatic Camphor Tooth Paste.

TWINBERROW'S CHEMICAL COMPOUND,

PREPARED EXPRESSLY FOR RENDERING FABRICS NON-INFLAMMABLE.

Directions for Use.—To three parts of good (dry) Starch, add one part of the Compound, and use as ordinary Starch. If the material does not require starching, mix in the proportion of one pound of the Compound to two gallons of water—well saturate the fabric with this solution, and dry it.

Of all salts hitherto proposed, this is the only one which does not interfere with the ironing. No other salt allows the iron to pass smoothly over the fabrics without injury to the appearance or colour. Very little practice will enable any laundress to use this process, which will always prove successful, if the salt is dissolved in the proper quantity of water. Too weak a solution does not perfectly protect the goods, and too strong a solution prevents the iron from passing. It is advisable to take a little more blue than usual.

The solution does not become clear, but remains turbid, and must be well-stirred before being used.

TWINBERROW'S PREPARATION OF MYRRH,

Having been used extensively for upwards of twenty years, with most satisfactory results, he conceives it unnecessary to say more than that it is an effectual remedy:—First, in all diseases of the Gums, particularly Scurvy, those which recede from the Teeth, and are tender. Second, for the preservation of the Teeth. Third, for preventing Teeth which are decayed from becoming worse. Fourth, for the prevention of Tooth-ache. Fifth, for purifying the Breath, which may be affected by the state of the stomach or any other cause; imparting, at the same time, a most agreeable and refreshing effect.

TESTIMONIALS.

"Sir,—I have much pleasure in bearing testimony to the efficacy of your excellent Compound Preparation of Myrrh. I have recommended it to my patients, and find it the most useful preparation of the kind I have met with. Faithfully yours, W. WAARDROP, *Surgeon Dentist.*"

"My gums are become in a very healthy state since I used your Myrrh, and I never suffer from toothache." The Hon. Mrs. ELLISON.

"For three years I suffered very much from the diseased state of my gums; I am pleased to say your myrrh has completely restored them. Mrs. FRAZIER."

"My teeth have not decayed since using your myrrh. Mrs. CAPTAIN DAVIDSON."

"I have had many opportunities of seeing the effects of your Preparation of Myrrh, and find it extremely beneficial in all affections of the gums and teeth. Dr. FRANKLIN."

FOR STOPPING DECAYED TEETH.

TWINBERROW'S WHITE ENAMEL,

FOR FILLING DECAYED TEETH, HOWEVER LARGE THE CAVITIES.

This valuable preparation is in a soft state, so that it cannot give the least pain, *and may be used by any person with the greatest ease*; it has the remarkable property of immediately becoming hard and sound as the tooth itself, excluding the air and food from the nerve, *and arresting all further progress of decay*. It is superior to anything that has been used before, and will succeed when all other remedies have failed.

MEDICATED CHLOROFORM,

JUDICIOUSLY IMPREGNATED WITH APPROPRIATE REMEDIES.

An instantaneous Cure for the Toothache, Rheumatic Pains in the Gums, and Tic-Douloureux.

The introduction of Anesthetic Agents, and more particularly Chloroform, may be regarded as one of the most important boons the science of modern Chemistry

has conferred on mankind. This preparation has been found the most successful application for the above affections yet introduced. Numerous have been the remedies offered for these painful and troublesome maladies, but failure and disappointment the most frequent results of their use: in fact, no certain remedy has hitherto been found.

Twinberrow's Solution of Mastie and Chloroform, for Stopping Decayed Teeth.

Twinberrow's Camphorated Chloroform, for Tooth-ache.

Twinberrow's Tincture of Myrrh and Borax, an agreeable and elegant compound of Myrrh and Borax, with Eau de Cologne.

Rigg's Mouth Wash.

Toilet, Nursery, and Shaving Soaps.

Genuine Old Brown Windsor Soap.

Honey Soap.

Glycerine Skin Soap.

Castile Soap, White and Mottled.

Italian Soap.

Pears' Transparent Soap.

Pure Olive Oil Soap.

Dunn's Shaving Soap.

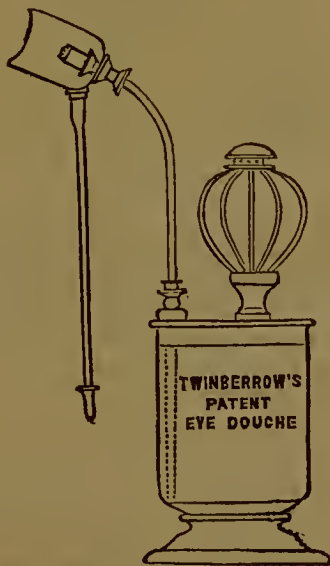
The Euxesis Shaving Cream, unparalleled for its cleanliness, economy, and facility in shaving.

Naples Cream.

Sand Balls.

Brecknell and Turner's Skin Soap.

By her Majesty's



Royal Letters Patent.

TWINBERROW'S IMPROVED EYE DOUCHE.

Directions—Put the fluid to be injected into the vessel, introduce tightly the long pipe, and attach the Eye Cup with the Douche, then fix the Eye to the Cup, and gently compress the Elastic Bottle, allowing it to expand alternately, when a soft continuous stream will be produced.

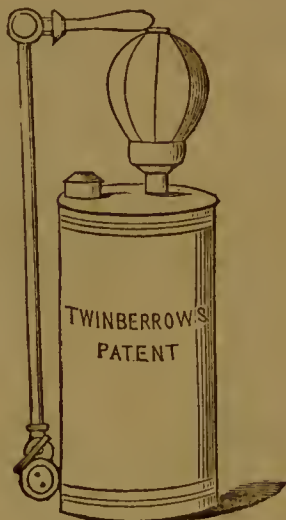
In the ordinary Eye Douche Apparatus, the *Cup* which is applied to the Eye is attached to a *flexible tube*, which has to be *HELD* by one hand, *while the other* is engaged in *pumping* the liquid, whereas, in my *Improved Apparatus* the *Cup* is fixed to a *rigid pipe*, firmly secured to the reservoir or glass vessel containing

the fluid to be injected, thus *presenting* itself in the *required position*, so that the patient has *only* to *apply* the *Eye* to the *Cup*, therefore is *relieved* of the *trouble* and *annoyance* of *HOLDING* the *PIPE* and *cup* as in *other syringes*.

By the action of the *Eye Douche* in common use, the stream is intermittent, *consequently* causing in some instances *irritation*, whereas, by employing the *Patent Douche*, this *objection* is *completely obviated*, the *fluid* being *projected* in a *continuous, gentle, soft shower*.

TWINBERROW'S PATENT DOUBLE ACTION RESERVOIR INJECTION APPARATUS.

Complete, with additional Pipes for all purposes, and suitable for every Climate.



The advantage of injections for preventing costiveness, and restoring the alimentary canal to a natural state of activity, has long been acknowledged; but although their great utility is sufficiently established in the opinion not only of the medical profession, but of a large proportion of the public, the use of lavements has from various causes been comparatively limited. These impending causes have depended not upon objections raised against enemas themselves, but solely upon the complicated nature of the instruments.

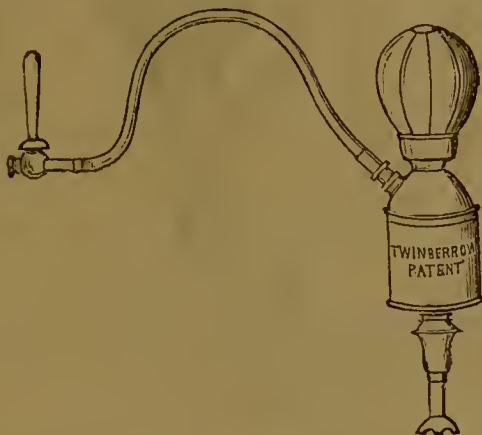
W. TWINBERROW has no hesitation in offering his PATENT RESERVOIR INJECTION APPARATUS as the *most simple* and *perfect* yet produced.

The *Piston* or *Pump* which so *frequently* gets *out of order*, is *not introduced* into this *Apparatus*; there is, therefore, an absence of *OILY* or *GREASY MATTER* and *BLACK LEAD* (which are absolutely necessary to lubricate the *Piston* in the usual *Syringes*), which soon become *rancid* and *green*, some portion of which inevitably *passes* with the *fluid injected* from an *ordinary Syringe*.

One hand only is required to work this instrument, and it is done *without any exertion*. No *AIR* can possibly *PASS* with the *injection*.

From the description thus given, the *superiority* of this instrument is apparent. It requires no *adaptation parts*, no *screwing* or *unscrewing* of *conduit pipes* or *tubes*. It is *extremely portable*, the *conduit pipe* moving on the *hinge joint* allows it to *fold back* upon the *reservoir*; it is thus reduced to the *smallest possible compass*. In this way it can be taken to the *closet* and used without the *least delay* or *annoyance*.

TWINBERROW'S
PATENT DOUBLE ACTION SYPHON SYRINGE,
 WITH ADDITIONAL PIPES FOR ALL PURPOSES,
 Including the most perfect Eye Douche and Ear Syringe.



The great advantage of this Syringe over others of a like description is its having a double action, thereby producing an uninterrupted stream, consequently discharging double the quantity of fluid in half the usual time and with much less exertion.

TESTIMONIALS.

FROM J. ERICHSEN, Esq.

Professor of Surgery at University College, and Surgeon to the Hospital.

" 6, Cavendish-place, Cavendish-square, Oct. 1st, 1861.

" TWINBERROW'S 'DOUBLE ACTION (Syphon) SYRINGE' is the most generally useful instrument of the kind with which I am acquainted. For the more ordinary purposes it is *especially well fitted*, being *compact, portable*, and NOT LIABLE TO GET OUT OF ORDER. By a very simple arrangement, the Instrument may be rendered available as an Eye Douche and an Ear Syringe. For these purposes it is *peculiarly adapted*, being *continuous in its action*."

JOHN ERICHSEN."

FROM W. FERGUSON, Esq.

Professor of Surgery at King's College, and Surgeon to the Hospital.

" 16, George-street, Hanover-square, Oct. 14th, 1861.

" Sir,—I have seen and made use of your Double Action Syringe, and think very highly of it.

" Yours faithfully, WM. FERGUSON."

FROM T. A. NELSON, Esq., M.D.

" 10, Nottingham-terrace, York-gate, Regent's-park, Oct. 1st, 1861.

" Sir,—Having carefully examined your *Patent Apparatus* for the administration of *Injections*, I consider it to be a very good contrivance, its chief merits being *simplicity of construction*, ease and *EFFICIENCY of ACTION*, *portableness*, and *constant readiness for immediate use*.

" Yours truly, THOMAS A. NELSON, M.D."

TWINBERROW'S DOUBLE ACTION SYPHON SYRINGE.

" Under this name, Mr. Twinberrow has recently invented an ingenious little instrument, which appears likely, from its extreme simplicity of construction and perfect efficiency, to come into general use. The chief merit of this invention is, that a continuous stream of fluid is maintained. By a slight pressure of the fingers upon an elastic bottle attached to a reservoir (as seen in the engraving), the desired end is accomplished; thus avoiding the trouble attending the pumping apparatus. It is portable, cleanly, and not likely to get out of order, and is fitted with a series of tubes, which qualify it either for the ordinary purposes of an injecting apparatus, or as an eye douche or ear syringe. It has been successfully used for washing out the bladder."—*The Lancet*.

NEW ENEMA APPARATUS.

" We give below a representation of a new form of Enema Syringe, lately introduced to the profession by Mr. Twinberrow, of Edward-street, London. The principle on which it is constructed has proved very successful in the eye and ear douches now commonly employed. The impulse in these is given to the fluid by means of an india-rubber bottle instead of the piston arrangement of the old syringes, and a continuous flow is ensured by a proper arrangement of valves. The advantages of this arrangement will be at once seen, as it obviates the necessity of assistance, which, as both the operator's hands were employed on the old instrument, was rendered indispensable. By this apparatus the injection may be effected by one hand while the tube is guided by the other."—*Dublin Medical Press*.

DR. KENNEDY'S SYPHON ENEMA.



French enema syringe.

E, The vagina tube.

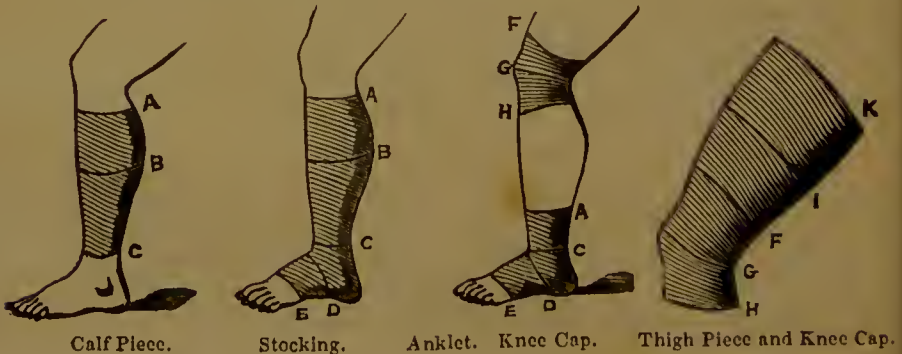
F, The enema tube.

The above neat instrument has been used with great success by the Faculty in all Uterine and other diseases where the use of an Enema is required. It is extremely simple in its construction, and not at all likely to get out of order.

ELASTIC SYRINGES AND INJECTION BOTTLES, HOLDING FROM ONE OUNCE TO ONE PINT.



ELASTIC KNEE CAPS, STOCKINGS, ANKLETS, &c. FOR VARICOSE VEINS, SWOLLEN LEGS, WEAK JOINTS, STRAINS, ETC.



Calf Piece.

Stocking.

Anklet. Knee Cap.

Thigh Piece and Knee Cap.

ELASTIC COTTON BANDAGES.**ELASTIC INDIA-RUBBER BANDAGES.**

Abdominal Supporter.

Directions for Measurement.—Take the circumference of the parts at the points indicated by the letters in the above.

TWINBERROW'S IMPROVED EYE SHADE,

The great advantage of which is its lightness, easiness of adaptation without pressure, that it can be placed at any angle, and does not confine the warm air to the eyes, as is the case with the common shade.

It will be found a perfect protection to the eyes from the injurious glare of gas or other lights.

A LARGE ASSORTMENT OF**MR. JEFFREY'S PATENT RESPIRATORS OR SAFEGUARD
FOR THE LUNGS,**

WITH THE RECENT IMPROVEMENTS AT THE REDUCED PRICES.

MARKWICK'S PATENT CHEST PROTECTORS,

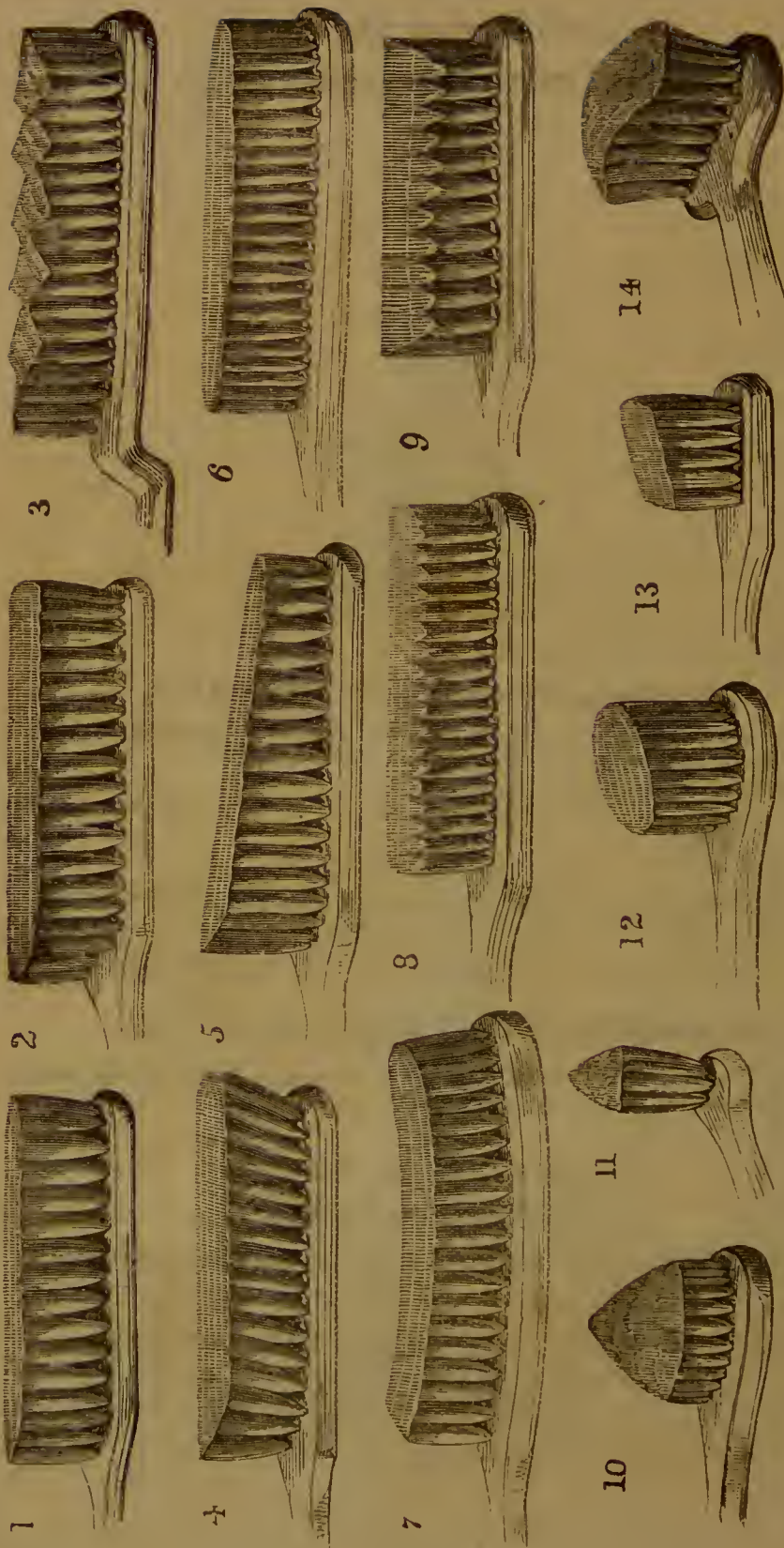
Which for persons with weak lungs, for those much exposed to the weather, either in travelling, leaving heated rooms, theatres, &c., or otherwise, have been declared far superior to any other.

PATENT PILINE SHOE SOCKS.**PATENT PILINE GLOVES.****MARKWICK'S IMPERMEABLE SPONGIO PILINE,
FOR POULTICES AND FOMENTATIONS.****MARKWICK'S PATENT IMPERMEABLE PILINE.**

A beautifully soft, waterproof woollen fabric, and a most valuable remedy in Rheumatic and Neuralgic Affections, Gout, Lumbago, Burns and Scalds, &c., and when moistened with some stimulating liniment, a ready and most effectual cleanly substitute for Blisters and Mustard Plasters.

TWINBERROW'S IMPROVED TOOTH BRUSHES.

26



W. TWINBERROW recommends with confidence his IMPROVED TOOTH BRUSHES, which are manufactured on an entirely NEW PRINCIPLE, so as to preclude the possibility of the hair becoming loose. Of the above patterns, W. T. begs to state he has, of each, THREE DEGREES OF STRENGTH--SOFT, MIDDLING, and HARD.

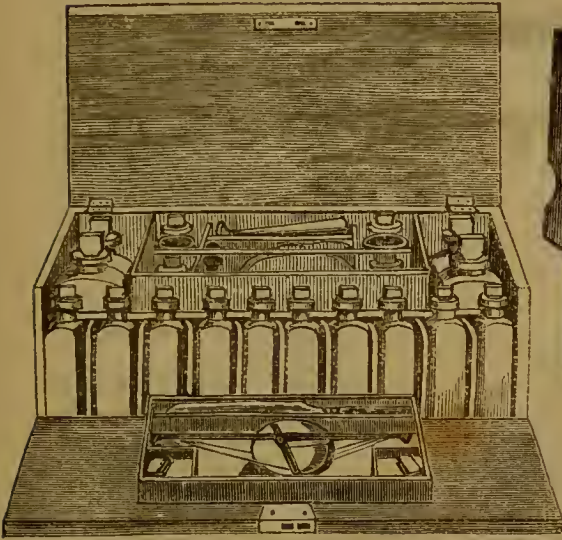
W. T. more particularly calls the attention of his friends to the CASTELLATED BRUSH marked No. 3, the principle of which is to remove every particle of food which may have collected in the interstices of the teeth during mastication, which if allowed to remain would decompose, thereby affecting the breath and causing the teeth prematurely to decay.

The Number and Strength are only required to be mentioned, to be furnished with either of the above patterns.

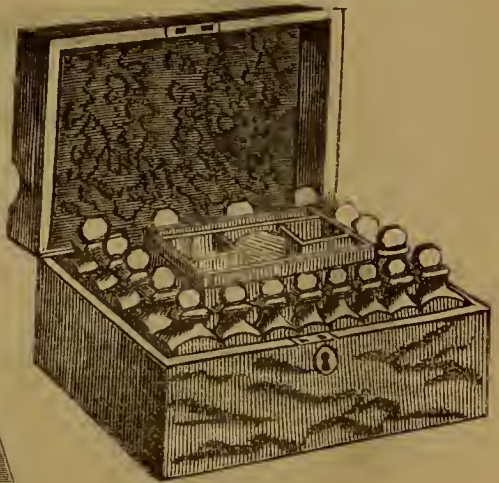
Medicine Chests

OF EVERY DESCRIPTION, AND FITTED UP SUITABLE FOR ALL CLIMATES.

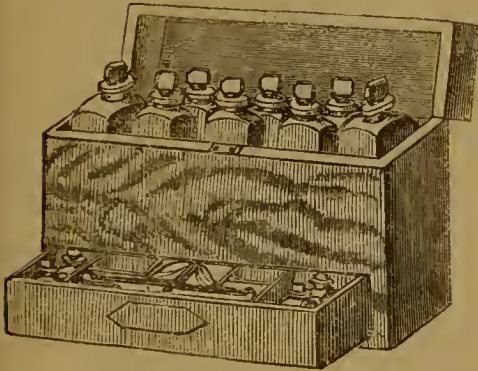
PORTABLE TRAVELLING CHEST.



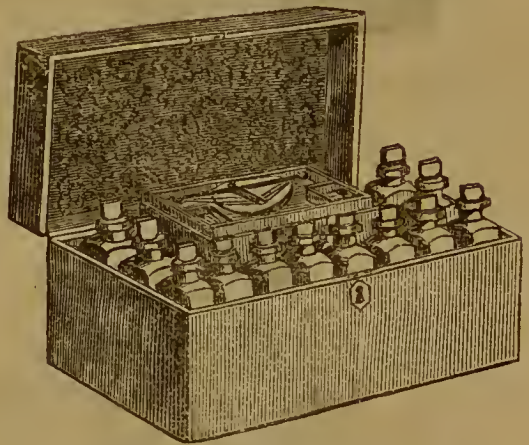
FLAT PORTABLE CHEST.



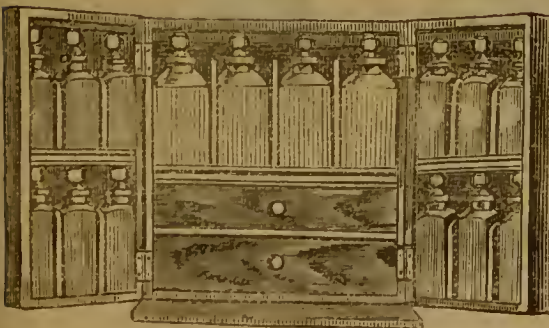
CARRIAGE POCKET CHEST.



FLAT PORTABLE CHEST.



SMALL FOLDING WING CHEST.



POCKET CASE FOR SAMPLES, &c.



THE NEWLY-INVENTED PORTABLE TURKISH HOT-AIR AND VAPOUR BATH.



The inventor, in offering this elegant apparatus to the notice of the public and the medical profession, particularly does so in the full conviction of the necessity that existed for a good, cheap, portable Turkish Bath, that can be used with safety and convenience in the bath-room, dressing-room, or nursery, or as an important auxiliary in the sick-room.

This unique apparatus will be found to supply all requirements, as it combines the requisites of the original Turkish Bath, with the immense advantages of *portability, simplicity, and cheapness.*

A bath of hot air, or vapour, or both combined,

may be obtained in a few minutes, at a cost of not more than threepence.

It may be applied to a person in bed, or on a chair, or locally.

The Bath may be applied in this way to the Neck, Face, or Ears.



It is perfectly free from smoke or smell, whilst in action it is so clean that it will not soil the most delicate fabric.

The process is so simple and devoid of danger, that the most nervous and timid patient may use it with confidence.

To the medical profession the Vapour Bath will prove most invaluable, as there is scarcely a form of disease, or condition of the system, in which it may not be employed, not only with safety, but benefit.

In erysipelas the symptoms may be mitigated, and the duration of the disease shortened, by the aid of the bath.

In inflammatory symptoms, the Vapour Bath renders the blood less rapid, less viscid, and consequently less inflamed, which are matters of the highest importance in fevers; it may be added that obstructed capillaries and obstructed perspiration are by its use most safely and effectually remedied, the humours being rendered fluid, and the vessels permeable.

In eruptive diseases—nettle-rash, small-pox, scarlet fever, and measles—the Vapour Bath may be used with benefit at any stage of the disorder.

In the treatment of influenza, bronchitis, croup, rheumatism, gout, lumbago, neuralgia, the Vapour Bath will be found an important auxiliary, and can be modified to meet every case, and is available for every possible form of application.

Finally, the application of warmth and moisture to the body by the use of the Vapour Bath assists the efforts of nature to maintain a free, equal, and regular action of the functions of the body and mind, which are the most infallible preservatives of a healthy and happy life.

Directions for using the Hot Air and Vapour Bath.

Put a pint and a half of hot water into the boiler, and a quarter of a pint of methylated spirit into the lamp; light two or three wicks, as may be necessary; put on the dome, and the bath is ready for use.

For general application to the whole surface of the body, put the bath with the disperser on under a cane-bottomed chair or stool, put a hassock on the chair (on which should be placed two or three folds of flannel), and enclose the whole person in a blanket, leaving the ends well on the ground to prevent escape of heat, and the face exposed. The feet should be placed on a footstool, with a pan of hot water or not, according to inclination, and the bath may be taken in this way for from fifteen to forty minutes, after which, clear the skin with warm soap and water, then sponge freely with cold water, and rub dry briskly with rough towels. The towels can be warmed ready for use, by placing them on the back of the chair while the bath is being taken.

For local application to the chest, back, knee-joints, &c., place two or three folds of flannel over the part affected, and conduct the heat to it by means of the tube,



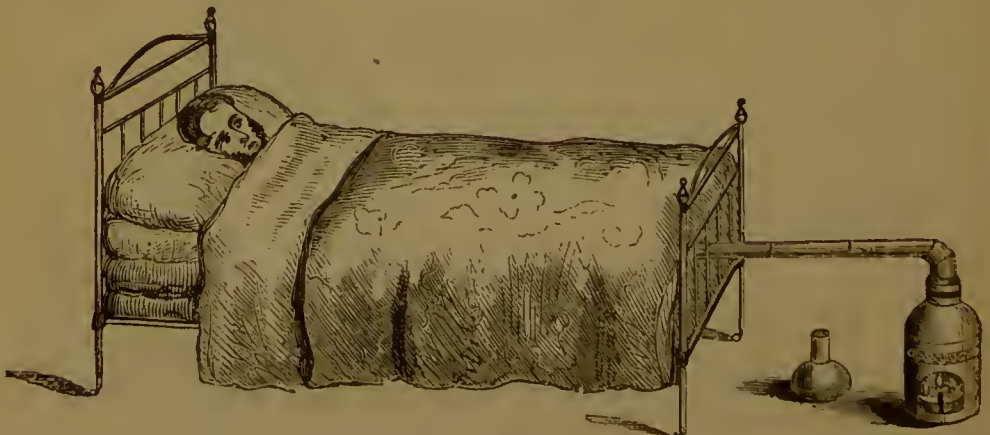
raising or lowering the apparatus as may be necessary. If herbs, such as chamomiles or poppy-heads, are used, they may be placed in the boiler or mediator, and so replenished or removed at pleasure. Laudanum, spirits of camphor, vinegar, &c., may be poured on a piece of sponge placed in the mediator. A sulphurous



bath can be instantly made by mixing half an ounce of milk of sulphur in the pint and a half of water in the boiler. For an iodine bath put from twenty to one hundred drops of tincture of iodine into the water, and proceed as before. This will be of great use where hot sea-water baths are ordered and not readily attainable, and the strength can be easily regulated according to the necessity of the case.

N.B.—Extra care will be required in cleaning the bath and boiler after any of these medicated baths.

**Also the Invalids' and Travellers' Companion for Boiling Water
in a few minutes.**



Take the boiler out of the Bath when applying it to the bed.

